FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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FDA Proposes Revised Trace Mineral List

WASHINGTON — The Food and Drug Administration this week announced a revised proposal of "general recognition of safety" of 42 compounds serving as sources of trace minerals in animal feeds.

The proposal, which comes under the food additives amendment, was published in the June 9 Federal Register.

The new action follows reconsideration by FDA of a Dec. 31 proposal on the basis of comments and additional data obtained from animal nutrition experts and the feed industry.

"The Dec. 31 proposal," said FDA, "was withdrawn because of apparent misunderstanding as to the scope and purpose of the proposed order."

Nutritionists, feed manufacturers and others had objected to certain quantitative limitations which were part of the first proposal for trace minerals to be generally recognized as safe under the additives amendment.

As pointed out by the American Feed Manufacturers Assn. this week, all of the restrictions and limitations contained in the Dec. 31 proposal have been removed, except:

(1) Levels above 10 parts per million (0.0010%) of copper in sheep feeds are not generally recognized as safe.

(2) Levels above 1 part per million (0.0001%) of cobalt in other than ruminant feeds are not generally recognized as safe.

Both of these limitations refer to the amount of the trace mineral added to the total daily feed intake of the animal.

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FEEDSTUFFS *Features This Week*

LINSEED OIL MEAL—Research which shows "further desirable qualities which enhance the use of linseed oil meal in beef cattle supplements" is discussed. Page 42.

MILL DESIGN—An industry specialist outlines considerations in designing and equipping a custom feed mill. Page 50.

EGG CONTRACTING—A Florida feed man discusses market egg contracting and feed industry trends on page 64.

LOW-FIBER RATIONS—A summary report on a feeding trial concerning low-fiber rations for fattening cattle is given. Page 72.

EGG MARKETING—The quality egg marketing plan of a Missouri hatchery is described in an article starting on page 82.

IMPROVING PROFITS—Some opportunities for the production man to raise feed manufacturing profits are discussed on page 94.

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Carcass Results With No-Hay Rations for Cattle Analyzed

By JAMES E. SHARON
Feedstuffs Staff

AMES, IOWA—The payoff report on Iowa State University's initial experiments with "no-hay" cattle feeding rations, which includes what Dr. Wise Burroughs terms "small and not particularly significant carcass grade differences," has now been analyzed.

Final figures for the 133-day feeding trial—which compared eight pens of cattle getting 5 lb. of hay daily in a good, conventional ration, with four pens of cattle which received hay just the first nine days and then were switched to a "no-hay" high concentrate ration—were sufficiently encouraging to prompt still more trials in search of possible improvements in the makeup of the "no-hay" ration.

"We are giving some thought to the mineral constituents of this new ration, as well as to the protein and vitamin supplementation," Dr. Burroughs said last week. "We're striking out in a different direction, in an effort to get more feed into the animals. The hope is that we can come up with something different in the way of a supplement to go along with this new ration."

Change in Roughage Use

He also agreed with the thought expressed privately by a number of cattle feeders at the June 24 Iowa State Feeders Day (full Feeder Day reports have appeared in previous issues of Feedstuffs) that the time might not be far off when Iowa feeders would be feeding most of their usual roughages before cattle are put on feedlot finishing rations.

"This has been our thinking on the situation, and is part of the reason for our extensive experiments with beef cow-and-calf operations. There seems to be a need for larger supplies of feeder cattle in Iowa, and certainly the expanded cow herd situation would mean greater demand for these roughages which are in good

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USDA Makes Plans to Bull Egg Prices

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Signs of the Zodiac in the summer of the great quadrennial political fiesta . . . Taurus rampant.

You may find this mark on the policy declarations of the poultry branch of the U.S. Department of Agriculture as it engages in operations to support the farm level price of eggs.

Soothsayers at the operating level of USDA say procurement of dried eggs will be aggressive and steady—probably at or above levels of procurement established last week when the government bought more than 1.6 million pounds of dried eggs.

USDA will not be a timid bull. Government officials say they cannot effect their price boosting goal by small nibbles in the egg market. They declare they will buy vigorously to achieve higher country prices.

Price Level Guess

It is difficult to estimate what price levels are contemplated by USDA but it is reasonable to expect that it will attempt through its buying power to pull the country price for eggs up to an approximate level of 27@28¢, the level at which USDA halted the old program earlier this year.

This new program, scented with the fragrance of the four-year political cycle, may not attain the target that vigorous procurement might seek.

The USDA bull may next be expected to enter into procurement of frozen eggs, since it seems obvious that egg drying facilities may be inadequate to handle the volume of shell eggs which must be obtained to get the egg market back into a healthy state.

Sentiments Dashed

Previously emphatic, bullish sentiments issued by USDA regarding the egg price outlook seem to have been dashed this week when the crop report for July 1 revealed that egg production continues unabated.

Egg output is approximately that of last year and there has been no liquidation of old hens, which is long overdue but allegedly delayed by un-

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Turkey Buying Program Seen

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The turkey and feed industries should not be surprised if later this summer the U.S. Department of Agriculture announces a school lunch turkey procurement operation. It is euphemistically known as surplus removal.

But granting the spurious nature of the generosity of USDA, it must first be understood that the big farm agency will be operating under a congressional mandate if the turkey program is forthcoming, as it probably will be.

At the present session of Congress the sub-committee on agricultural appropriations, acted in the grandiose manner of an indulgent father with his son at the corner candy store near the neighborhood playground, presenting his pride and joy with a $5 note, vaingloriously telling the young man to call in his pals for a give-away deal at the candy or cola counter and no questions asked.

Congress did precisely this when it passed the USDA appropriations bill this year. It authorized disbursement of Section 32 funds to be used to buy and remove from the market such surpluses as might interfere with the normal marketing of commodities which are not otherwise under price supporting operations.

Turkeys happen to fall into this category. Turkeys are grown in politically sensitive areas. For some years they have been the residuary beneficiary legatees of this type of price supporting—pardon the glove—surplus removal operations.

Thus far a turkey surplus removal program has not been okayed at the Commodity Credit Corp. board—but nevertheless the congressional mandate to spend money exists. So USDA is ordered to spend money and in this fourth year of the cycle when political plums are now being highly priced, it seems certain that eventually a turkey program will be announced.

The trade problem is to estimate the timing of such a program. While acting from the call of the puppeteer—Congress—USDA still has discretionary latitude in making the program most effective as to timing. Even though they are ordered to spend money, even the most calloused USDA executive must feel that he

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Layer Numbers Off Slightly, But June Egg Output Steady

WASHINGTON—Laying flocks averaged 281,388,000 layers during June —1% below June of last year. Layers counted July 1 numbered less than on the same date a year earlier, but the 1960 total was only 6,000 layers less than the 1959 figure, the U.S. Department of Agriculture reported this week.

The number of layers during June averaged 3-6% lower in the north Atlantic, west north central and east north central regions. An increase of 10% was reported for the West. The count climbed 4% in the south Atlantic states and was about the same as a year earlier in the south central region.

Regional decreases and increases were much the same in the July 1 figures.

USDA said egg production was about the same during June of this year as it was in the same month a year ago. The total for the month

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New Approach

ADJUSTMENTS TO THE "new look" in agriculture continue to be made in the many businesses and agencies which are closely related to farming. One such adjustment getting attention at present is that in the scope and service of extension service.

Traditionally, extension has confined its major efforts to educational work with farm families, dealing with such matters as credit, machinery, feed, fertilizer and marketing firms with the purpose of securing their assistance on programs of primary interest to farmers.

Extension work at Kansas State University now has shifted some of its service efforts to the broader area of agribusiness. The program, considered a pilot project which could lead to similar programs in other states, is intended to help firms dealing with agriculture. Helping them become more efficient benefits all agriculture, including the farmer, Harold E. Jones, extension director, points out.

The service, he reports, has worked successfully with rural bankers, grain elevators, feed manufacturers, implement companies, fertilizer dealers, marketing firms and others. The results of this new approach to extension will be keenly appraised by the business community as it continues to develop.

Laying the Groundwork

IN SPITE OF RESOLUTE efforts on the part of industry to persuade members of Congress that the Delaney clause should be eliminated or at least modified in the new color additives legislation, Congress approved the bill with only limited opposition from members who feel that the clause is unnecessary and unsound.

Passage of the bill with the Delaney provision intact vastly complicates the task of removing the parallel restrictions included in the Food Additives Amendment which has thrown a damaging monkey wrench into the feed industry's scientific machinery.

The industry, though disappointed and discouraged by Congress' action, has no intention of letting up in its efforts to resolve the problem. Both the American Feed Manufacturers Assn. and the Animal Health Institute have announced plans to start immediately on vigorous action programs.

THERE IS LITTLE DOUBT in the minds of many observers that the sound and logical opposition to the Delaney concept was largely ignored by both the White House and Congress because of one overriding fact: This is an election year. With campaign time in full swing, politicians seeking re-election have little disposition to be even remotely associated with any position which in any way could be construed as "being in favor of cancer." Because of the emotional aspects which surround the issue, plus the complicated legislative approach involved in such regulatory measures, political signals called for "playing it safe."

Such is the nature of election year politics, and little is to be gained by not recognizing this fact.

It is evident at this point that not enough members of Congress have been convinced that a vote against the Delaney concept is not a vote for cancer. There can be no letup in providing them with information that will help them understand that a viewpoint of science and reason must apply to food and drug legislation.

Those in industry who are dedicated to the task of resolving the Delaney dilemma, while remaining sensitive to the political overtones of the problem, have the strength of reason on their side. In the next several months a firm basis for renewing efforts to amend the Food Additives Amendment can be built on this foundation of reason so that whatever the voters decide in November, an effective program to change the law can be already in gear.

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Confidence, almost of a buoyant, enthusiastic nature, in the steady expansion of formula feed sales has spread into the attitudes of feed manufacturers of many regions. This is what the feed industry has needed since the first of the year. This subdued sort of optimism is, to some extent, the result of producers themselves feeling better about what's in store for them when they market their farm products. Feed men are well aware that a happy farmer buys more feed than a complaining one. The wholesale feedstuffs price index slipped from 73.4 to 73.1 this week, but the feed-grain index moved up to 67.4 from 66.8. The hog-corn ratio, one of the most important factors in holding up current feeding interest, was down this week to 14.3 from 14.7 a week ago—but this new level still was 2.1 better than a year ago. (Feed markets in detail on pages 108-110).

Northwest

The older July gets and the bigger hogs and turkeys grow, the more encouraged feed manufacturers in the Northwest become.

Reports from major manufacturers in this region on how good or bad current feed business is don't run in one narrow channel, but they do indicate that well-fed, growing turkeys and hogs are accounting for significant improvement in sales. Pullet and layer feeds are catching on, too, for some manufacturers, at least. But this is something that probably would be argued if tradesmen representing different companies were to assemble. Some manufacturers probably would say that egg feed business is finally coming on because producers have enlarged their flocks with late chicks. Others could be expected to report that their egg feed business is down because layers on farms have been reduced considerably in number.

One trade executive described feed sales as erratic and confusing. He said movement is very good one week, then drops off into a slump the next.

For another firm, June produced feed movement 19% better than in the same month a year ago and 11% better than May of this year. Most manufacturers are reporting heavy runs of turkey and hog feeds. And all say cattle and dairy feeds are in a slump because of exceptional grass growth.

Southwest

Formula feed business continues to hold its own and is even improving somewhat in certain lines. Generally, feed manufacturers reported a little improvement in all lines indicating dealers were replenishing supplies. With the wheat harvest virtually over in this area, most dealers' stocks were at low levels.

Mills that deal heavily in turkey and broiler feeds were experiencing the best runs which in some instances involved six-day operations. Hog feed also was moving well. Some trade sources reported laying mash sales were still fair and this is in spite of poor egg prices in this area.

Most sources reported price lists about unchanged for the week as some ingredients weakened, while others, especially grains, were a little stronger.

Central States

With July half gone, a recap of what's been going on during the first two weeks makes it rather apparent that the sales volume has been slightly on the disappointing side. This is not to say that it has been actually bad, but hopes had been expressed that it would be enough better than June to result in a rather creditable showing for the two summer months in combination. With the first two weeks as a measuring stick, this has not taken place.

The good to excellent condition of pasturage for the country as a whole and particularly in the area tributary to this market accounts, at least in part, for the letdown in demand for cattle and dairy feeds.

There probably has never been any closer balance between the rate of feed production on one hand and its flow into consuming channels. This in turn has resulted in a very stable inventory situation. Some mills in the area are putting in a "smidgeon" of overtime but this is well offset by others where the work week has been temporarily trimmed a little below the standard 40-hour week.

Northeast

Manufacturers put in a full 40-hour week for the first time in months as demand for formula feeds increased. Pastures are worn a bit thin and the trade looks for the upturn to continue next week if the recent hot, dry weather persists. Scattered showers won't deter buying but heavy general rains could put a damper on demand.

The outlook for end products improved a little. Broilers were up one half cent a pound and eggs edged higher.

There wasn't must change in ingredient prices or the sales pattern of formula feeds. Egg mashes and dairy feed were the "bread" and starting, growing and turkey feeds the "cake" of the mixers.

South Central

Moderately better demand developed for formula feeds this week—due, in part, to an easing in the preoccupation with harvesting operations. In addition, some feed men are of the opinion that there is a little "better feeling" out in the country. They call this the result of some extra cash being on hand now that the wheat harvest is well along and farmers are receiving better prices for their products.

Hog and poultry feeds are currently giving the best volume. Egg feed sales, although below the level of many prior years, are holding up surprisingly well during this cool summer. Dairy and cattle feed business is being held down by excellent pastures.

Mill running time is mostly on a five-day, single-shift basis.

Pacific Northwest

This week's formula feed trading throughout Oregon, Washington and Idaho featured a slight broadening in the dairy ration inquiry as the reflection of extremely warm weather in most feeding districts. Movement of feeds for turkeys and chickens was maintained on a seasonal basis.

Pacific Northwest feed ingredient prices averaged steady to firmer during the trading period. Although the

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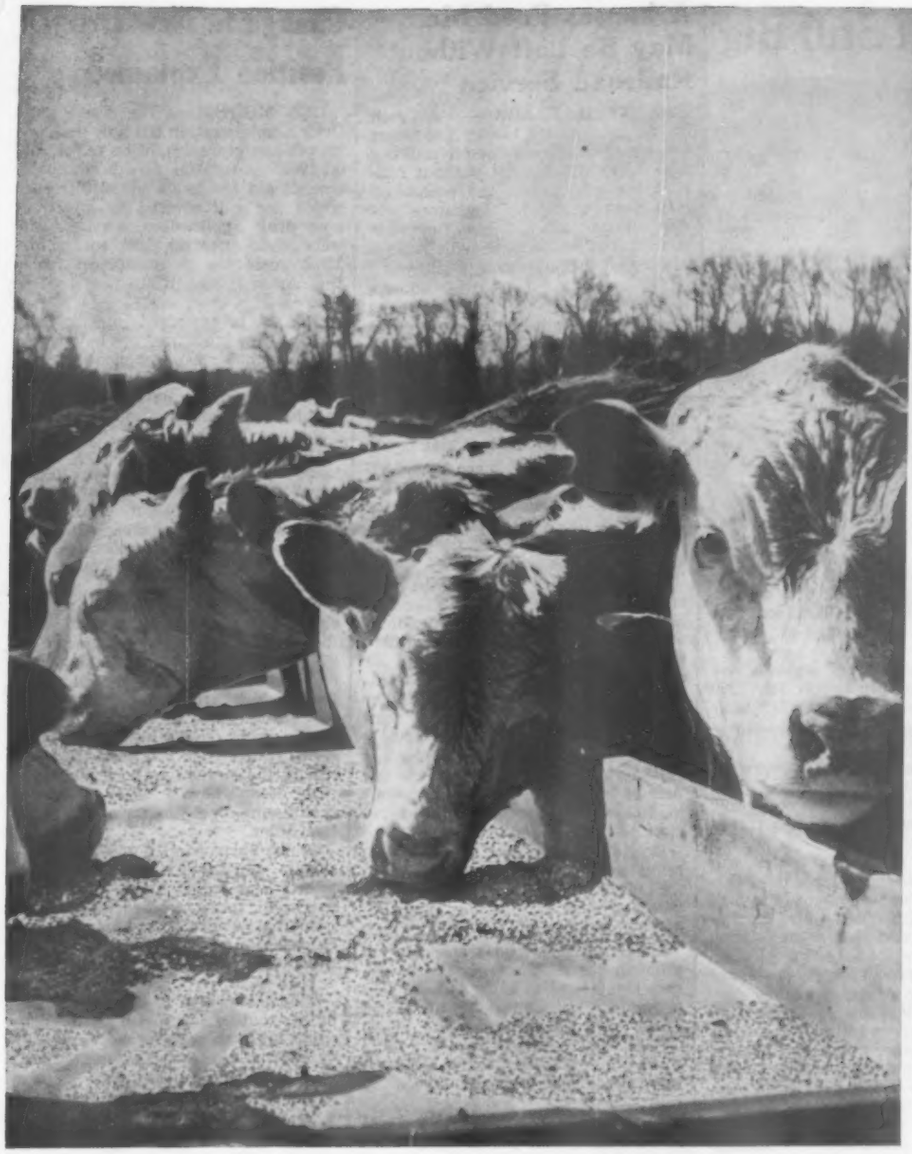

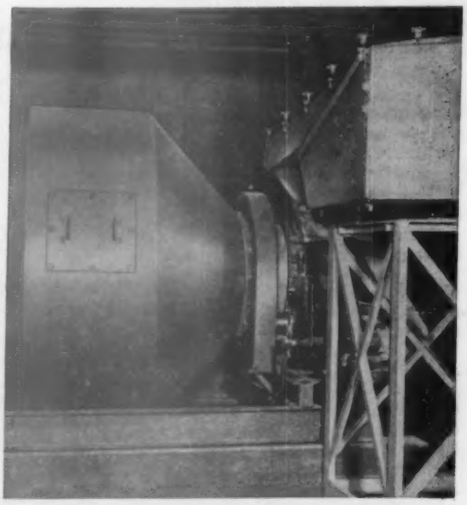

Modern equipment at Peter Hand assures proper blending of ingredients. Finished products are tested for particle size as well as potency.

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But, since all animals do not need or use the same factors, modifications of the basic formula should be made to *control* the amounts of vitamins and trace minerals that will be added to the ration. And, that's a job for *Peter Hand's new C-F Premixes.*

Here is a fortifier that takes full advantage of all the latest scientific developments. There are separate formulations for dairy cattle, beef cattle, sheep and goats, and horses. And each has been blended to the specific needs of the animals it will feed. C-F Premixes help provide them with a balanced diet to promote strong and healthy growth and quickly bring them to their *full profit potential* . . . even on the lower quality roughage.

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Grain Tonnage Off, But Still Big

WASHINGTON—This year's total feed grain tonnage is expected to fall below 1959's record. Even so, the U.S. Department of Agriculture says, the current crop season bids for recognition as one of the nation's highest production years in spite of slow and backward plantings.

USDA predicts the slight cut in feed grain tonnage in its July 1 crop report because a smaller volume of corn is in prospect and sorghum plantings were lower this year than last year.

However, oats production is moderately above last year; barley shows a slight increase over 1959, and soybean acreage is 5% above 1959 and only slightly below the record acreage of 1958.

In the outlook is a 4.1 billion-bushel corn crop, second only to the record 1959 crop. U.S. corn acreage dipped nearly 1% from last year's sharply expanded acreage, although plantings increased slightly in the Corn Belt. Yield prospects fall about 3 bu. per acre below the record level attained in 1958 and 1959.

The 1959 oat crop is expected to total 1,140 million bushels, 6% above last year's small production, but 12% below the 10-year average. Acreage for grain is the smallest in more than 70 years, but the yield of 41.6 bu. per acre now in prospect is about 4 bu. above last year.

This year's flaxseed production is pegged at 32 million bushels, 42% over 1959 but 15% below average.

Production of barley is forecast at 427 million bushels, 2% above 1959 and far above the average of 334 million bushels. A rye crop of 29.6 million bushels is predicted. This would be more than a third larger than last year's small crop and more than a fourth above the average.

Prospective production of all wheat —1,347 million bushels—is nearly a fifth larger than 1959 production and nearly a fourth larger than average. The 1960 crop is expected to rank second only to the 1958 record of 1,462 million bushels.

Production of all kinds of hay this year is forecast at 116 million tons—3% above last year's crop and 5% larger than the 10-year average. USDA estimates alfalfa and alfalfa mixtures production at 66.6 million tons compared with 64.7 million tons last year and the average of 54 million.

The first forecast of soybean and sorghum grain production for 1960 will be reported Aug. 10 by USDA.

'Wise, Thrifty Buy' Theme Adopted for Pfizer EGGtober

NEW YORK—"Eggs—a Wise and Thrifty Buy" is the theme adopted by Chas. Pfizer & Co., Inc., for its third annual nationwide "EGGtober" campaign.

Pfizer officials said this year's promotion will place emphasis in two places: More efficient production of higher-quality eggs and on greater consumption of eggs in every household.

The Poultry and Egg National Board will cooperate with Pfizer to bring EGGtober to the attention of the general public. It will carry on a full-scale campaign through its own promotional and merchandising activies.

"Miss EGGtober"

Promoting the health value of eggs throughout October will be a national "Miss EGGtober"—a 4-H girl selected by Pfizer.

Another feature of EGGtober will be the "Happy Egg for '60"—a new symbol that will soon greet shoppers in several thousand retail food stores cooperating in the promotion.

J. Jerome Thompson, vice president of Pfizer and general manager of its agricultural division, says, "It has been extremely encouraging these last two years to note the national interest generated through EGGtober promotion for eggs as a health food, and particularly in high-quality eggs —the smaller eggs in abundant supply at this time of the year.

"Again this year, we will strive to influence more than 50 million homemakers to step up the use of eggs in the home for breakfast, luncheon, dinner and in-between snacks. Pfizer joins our nation's poultrymen, poultry organizations, the U.S. Department of Agriculture and the entire egg industry in programs designed to stress the nutritive value of eggs in the diet and to encourage greater purchase of this quality food by consumers."

Pfizer and chain food stores will coordinate the promotion of EGGtober as a major "month" to sell more eggs, according to Mr. Thompson. As part of this consumer-aimed program, more than 5,000 retail food store managers will display posters of the EGGtober symbol, he said.

EGGtober will be inaugurated in three-color advertising spreads through national, regional and poultry specialty publications. Feed store sales promotion will be further supported by EGGtober announcements on radio and television and through specially created Pfizer merchandising programs.

Last year — Miss EGGtober — 21-year-old Adele Leonard of Livingston, N.J., represented the industry nationally in support of eggs, and served a luncheon for Ezra Taft Benson, secretary of agriculture, and his family. Also in 1959, radio stations throughout the Midwest and South sponsored their own EGGtober events—ranging from egg coloring contests to recipe competitions. Prizes included free trips to South America. In addition, a special supplement in over 200 midwestern newspapers was completely devoted to EGGtober. In other EGGtober activities of 1959—an egg laying contest was held on Chicago's State Street, cooking schools were held on television and special emphasis given to eggs in metropolitan newspaper food sections.

"Following last year's pattern when the program became a total all-out effort on eggs," says Mr. Thompson, "EGGtober will again reach its high-point in October, with a great many additional promotions, egg sales, consumer contests and other egg month activities taking place."

MILL FIRE 'BURNING ISSUE' FOR FIREMAN

MONITOR, ORE.—Marcus Vetter, Monitor Mills owner, received an expensive surprise this week after driving the local volunteer fire department's truck to a $70,000 feed mill fire. Arriving at the fire as a volunteer fireman, Mr. Vetter found his own plant on fire.

Poultry Plant Opens

FOREST, MISS.—After several delays the Southeastern Poultry Co. began operation here with around 150 employees and geared to handle 6,000 birds an hour. Southeastern is the fourth poultry processing plant in production in Forest, joining Cudahy, Gaddis and Forest Packing Co.

Manager Jack Smith said two eviscerating lines are in operation now and that capacity will be hiked to 9,000 an hour in the near future.

Southeastern, owned by Ray Fechtel of Atlanta, Ga., produces USDA inspected and USDA graded poultry.

Arkansas Feed Men May Be Left Without Railroad Service

BERRYVILLE, ARK. — Feed men in the broiler and turkey producing areas of Boone and Carroll counties apparently will be left without railroad service. This is the conclusion feed dealers, poultry operators and agricultural officials are drawing from recent action of the idle Arkansas & Ozarks Railroad.

Although the future of the 62-mile line is tied up in U.S. District Court and with the Interstate Commerce Commission, the railroad last week moved out more than 50 freight cars belonging to other lines.

The cars had been caught behind a washout which forced the railroad to suspend operations last May 6.

Reportedly costing more than $100 per day in demurrage charges, the cars were returned to their home lines after the A&O made temporary repairs to the damaged part of its system.

Meanwhile, the future of the railroad is tied up in litigation. The line has asked the ICC for a certificate of abandonment, but shippers have filed suit in federal court at Ft. Smith for a permanent injunction against abandonment. Federal Judge John Miller last week denied a petition for a temporary injunction against the line.

The possible closing of the line has cast a shadow of doubt over the future of large-scale poultry-operations in this north central Arkansas region.

Officials say more than 300,000 broilers and 100,000 turkeys are on feed within a 20-mile radius of Berryville and most of them are being finished on bulk feed.

Dealers say a feed transportation problem has hit the area. Trucks are now being used to bring in bulk feed previously hauled by the railroad. Some operators contend the added cost of truck transportation will force them into a bad competitive situation with producers in areas served by railroads.

But there is disagreement on this point. One Green Forest, Ark., feed dealer told Feedstuffs last week that trucks could handle the situation.

The dealer, who asked that his name not be used, said: "I believe at least 90% of the feed used in this area was being brought in by trucks even before the railroad had to go out of operation. In fact, if dealers had supported the line as they should have, it would still be operating today. Although I used the line extensively, I think we can continue to raise turkeys and broilers and compete with other areas."

Exchange Names First Hall of Fame Members

MILWAUKEE — Three veteran members of the Milwaukee Grain Exchange were honored July 11 as the first members of the exchange's new Hall of Fame.

Cited for their "outstanding contributions to the grain industry and active exchange membership in excess of 50 years," the three men are Edward F. La Budde, president, La Budde Feed & Grain Co.; Herman W. Ladish, chairman of the board, Ladish Malting Co., and Harold M. Stratton, chairman of the board, Stratton Grain Co. All three are past presidents of the exchange and are still active in the industry.

The Hall of Fame members were awarded individual plaques, and a master plaque on the exchange floor will bear their names as well as the names of others selected for the honor in the future.

Harry F. Franke, Franke Grain Co., was master of ceremonies for the plaque presentations. Norbert P. Waldoch, Chesapeake & Ohio Railway Co., was arrangements committee chairman for the event.

Change in New Drug Position Explained

DES MOINES — The Food and Drug Administration has now decided that it can grant extension to March 6, 1961, under the food additives amendment for drugs added to feeds which are still covered by effective new drug applications and which were made effective prior to Jan. 1, 1958, according to a bulletin from the Animal Health Institute, Des Moines.

This, it is explained, means that any feed manufacturer not having an effective new drug application (or Antibiotic Form 10) can obtain one on the basis of the extension, excluding drugs classified as suspected carcinogens.

However, prior to March 6, additional information will have to be supplied to FDA to allow for establishment of a food additive order for the new drug. Failing successful completion of this, any application approved during the extension period would be revoked.

This, AHI said, represents a changed position on the part of FDA. Industry representatives suggested to FDA last March that this procedure be followed on drugs to be added to feeds which are still covered by a new drug application, and it was turned down on the basis that drugs added to feeds are now food additives and if the particular feed manufacturer doesn't have a "prior sanction," then he must petition for a food additive order.

In the early part of 1960, FDA issued a general statement of policy telling how to go about getting an extension for a food additive. The proper procedure is to apply for the extension first and, having received the extension, a new drug application is then in order.

This is expected to be more or less of a routine operation with new drugs since there is already a wealth of information, toxicity reports, etc., in the original application.

Lighter Receipts Firm Egg Prices

Comparatively light receipts kept the egg market firm during the week ended July 14, and Chicago and New York showed advances of up to 2¢ doz., U.S. Department of Agriculture price information indicated.

At Chicago, July 14, large white extras had moved up 1@2¢ to 30½@ 32¢. A 1½¢ gain in the New York wholesale price of mixed large eggs was indicated.

Midwest at-the-farm egg prices remained unchanged from a week earlier.

Firm broiler prices were reported from most major broiler-producing areas. Last week, Delmarva prices averaged over 20¢ lb. for the first time this year, and they continued near that level this week.

Illinois Farm Supply Feed Division Moved

CHICAGO—Effective July 18, all operations of the feed division of Illinois Farm Supply Co. will be transferred to Bloomington, Ill. All correspondence and invoices from July 18 forward should be addressed to the company at P.O. Box 585, Bloomington, Ill.

The telephone number will be Bloomington 8-0021. In addition to this number, there will be a private number for E. G. Young, buyer of feed ingredients, which will be BL 8-0170 and a private number of A. H. Fahrenkrog, assistant buyer of feed ingredients, which will be BL 8-1950.

The transfer of the feed division is another step in the plans to move the entire organization from Chicago to Bloomington.

fortify swine breeder and lactation rations with the Merck brand of Vitamin B_{12}

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Prestarter, starter and grower rations also benefit from B_{12}-supplementation. The fortification of formula feeds is ***economically*** sound in preventing the stunting, anemia and reduced feed intake that frequently occur in the absence of this essential nutrient. And—the use of ***Merck B_{12}*** supplements is your assurance of product stability, uniformity and quality supported by over 30 years of Merck Research, Service and ***Know-How.*** Too, the wide group of potencies of B_{12} supplements available will satisfy all your formulation requirements.

Remember: The incidence of multivitamin deficiencies in swine rations may be more prevalent than that of single vitamin deficiencies. Be sure to check ***all*** your vitamin levels—including B_{12}—when you formulate your prestarter, starter, grower, breeder and lactation rations.

Still looking for an effective, low-cost antibiotic supplement? Why not set up a split-pen feeding trial with PRO-STREP® and demonstrate—with on-the-farm results—how PRO-STREP, added to your next Merck custom premix, can pay off for you and your growers. Merck Chemical Division, Merck & Co., Inc., Rahway, N. J.

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B12

...uniformity and quality...

Recommended Vitamin B_{12} Levels for:

Pregnant Sows	Lactating Sows
10 mg./ton	20 mg./ton

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Predicts Lower Cattle Prices

DENVER—Cattle prices will drift lower during the next two years, Dr. Herrell DeGraff, Cornell University, Ithaca, N.Y., told the advisory council of the American National Cattlemens Assn.

Dr. DeGraff said in a special mid-year report to the association that this does not mean a sharp "bust" or a panic in cattle prices. He commented that it does mean that the point has been reached in herd build-up where some increased marketings will be inevitable. As a consequence, prices will drift lower. Bunched marketings could have especially serious price consequences.

The Cornell University professor stated that during the first four months of the year cattle slaughter was up 10.4% and that a continuation of this level seems likely through the remainder of the year. This would result in a cattle slaughter of 26.0 million head as compared with 23.7 million in 1959 and 24.4 million in 1958. Calf slaughter may finish the year a half million head higher, but a stepped up rate has not yet started. The first four months of the year were 3% below 1959.

However, even with increased slaughter of 3 million head (2.5 million cattle and .5 million calves), it will be 3 million head short of sufficient slaughter to check inventory expansion. The prospect is that the cattle inventory will reach upwards of 105 million head at the end of the year.

Spring pig crop is now estimated at 9.5 million, 16% below the 1959 spring pig crop. December-February farrowings this year were down 30%. These are the pigs that provide market supplies June through August. March through May farrowings (September-November marketings) were down 12%. Fall farrowing intentions (June-November) as reported by the U.S. Department of Agriculture are indicated to be 4% lower than a year ago. Lower hog production will mean less market competition for beef, especially during the summer and fall of 1960.

Imports of cattle and beef are expected to be down from over 8% of domestic production in 1959 to about 5%. This drop will be a "plus factor" in the market price of cull cows.

Some increased cow culling is predicted. Steer and heifer numbers are sufficient to result in abundant supplies of feeders, even if more heifers do move into the cow herd. Country demand is certain to lessen from the levels of the last two years as ranges and pastures in all areas of the country become more fully stocked and as speculative interest lessens under the impact of rising numbers and less encouraging price outlook.

Poultry supplies during the year are expected to be about the same as 1959, the second successive year of stable per-capita supply.

The DeGraff report indicated that consumer purchasing power should hold up well throughout the year. The report stated that economic activity might be down somewhat next year. However, employment and payrolls are expected to hold up well for two or three quarters.

Tell Merger of 2 Iowa Feed Groups

DES MOINES—Western Grain & Feed Association of Iowa and Feed Institute were merged July 1, according to Robert B. Couch and Fred Andresen, presidents of the two groups. Headquarters will be in the Shops Building in Des Moines with Bob Skinner as executive secretary of both associations.

The two associations will continue to operate separately until April 1, 1961, when a new dues structure combining the two associations will become effective. At that time it is planned to create two divisions—a feed division serving manufacturers, dealers, distributors and suppliers and a grain division servicing country elevators, warehousemen and the grain trade in Iowa.

It was reported that the directors of the two groups felt that their members could be better served by eliminating the duplication of services, members, dues and overhead expenses. It was also pointed out that additional services could be provided more economically by one organization.

Albert Guggedahl, managing director of Feed Institute, will be retained on a part-time advisory basis.

Wet Weather Cuts June Dehy Output

KANSAS CITY—The American Dehydrators Assn. reported this week that June's rainy weather, good for growing but troublesome for harvesting and processing, resulted in a 9.6% reduction in dehydrated alfalfa production during the month. From the Rocky Mountains to the Mississippi River, an ADA bulletin said, production showed a loss of 13.5% for June, compared with the same month last year.

Despite this setback, production for the year as of June 30 was up 2.6% over the nation. The Midwest showed a cut of 0.8%, however.

Nebraska, the major dehy producer, dropped 17.9% behind June of last year, more than wiping out the state's May increase. Nebraska's production up to June 30 was reported to be about 4% less than for the same period last year.

Grain Stocks on Farms on July 1

Crop	—Average 1949-58— %*	1,000 bu.	—1959— %*	1,000 bu.	—1960— %*	1,000 bu.
Corn for grain	33.1	972,997	32.5	1,117,515	33.5	1,334,685
Wheat (old crop)	6.3	67,301	7.9	114,937	8.6	97,306
Oats (old crop)	17.7	232,514	21.1	298,427	21.3	229,108
Barley (old crop)	13.2	41,681	13.7	65,315	13.4	56,233
Rye (old crop)	10.9	2,447	13.6	4,362	8.4	1,799
Flaxseed (old crop)	6.3	2,370	8.1	3,127	4.0	912
Soybeans	4.6	16,007	6.2	35,966	7.8	42,140
Sorghum grain	†5.0	†17,040	5.5	33,873	7.7	44,326

*Percentage of previous year's crop. †Short-time average.

Grain Stocks on Farms July 1 Set Record

WASHINGTON—The U.S. Department of Agriculture reported this week that feed grains stored on farms July 1 set a new record for the date—13% greater than a year earlier.

Record volumes of corn, soybeans and sorghum grain accounted for the new July 1 mark. Stocks of other grains on farms showed declines from a year earlier.

On-the-farm storage of corn July 1 totaled 1,335 million bushels, 9% above the previous July record of 1,229 million bushels set in 1949. A year ago, 1,118 million bushels of corn were on farms, while the average July 1 farm stocks total is 973 million bushels.

Soybean stocks on farms July 1 totaled 42.1 million bushels—17% above a year earlier and 16% above the former July 1 record of 1957. The new high in sorghum grain stocks on farms — 44.3 million bushels — was 31% above the previous record of a year ago, but still represented only 7.7% of the large 1959 production.

Oats stored on farms July 1 amounted to 229 million bushels, about 70 million bushels less than a year earlier, but near the average. Barley stocks came to more than 56 million bushels, well below July 1, 1958, but a third above average.

USDA reported that the 912,000 bushels of flaxseed on farms July 1 amounted to less than a third of the amount on hand a year earlier. USDA said this reduced level resulted from the small flaxseed crop harvested last year. July 1 holdings averaged 2,370,000 bushels 1949-58.

Farm stocks of food grains were 17% below a year earlier. Farm-stored wheat was down 15% from a year earlier and rye stocks were only two fifths as large as on July 1 of last year.

G. E. Benton in New Southern States Post

RICHMOND, VA. — Garland E. Benton, director of feed distribution and market procurement in central Virginia for Southern States Cooperative for the past three years, has been named dairy and livestock specialist for the organization.

G. E. Benton

Mr. Benton's new assignment is part of the major reorganization plan that Southern States Cooperative has just put into effect. The plan brought sweeping changes in the organization's distribution system as well as several changes in its wholesale division.

Under the program, the cooperative's 5-state operating territory has been divided into 10 regions. Each region has its own regional headquarters and staff headed by a regional manager. The old system had 40 operating districts with a district manager in charge of each.

Southern States Cooperative operates in Virginia, Maryland, Delaware, West Virginia and Kentucky.

In his new post, Mr. Benton will promote and coordinate the cooperative's dairy and livestock feeding programs as well as provide technical leadership. In addition, he will conduct, plan and assist in holding training schools for Southern States personnel. Mr. Benton will also maintain liaison with the state extension services, experiment stations and dairy and livestock departments.

Mr. Benton is a veteran of 23 years service with Southern States Cooperative. During that time, he has served as field man, assistant manager and manager of local cooperatives, manager of two petroleum cooperatives, manager of a marketing cooperative, and a district manager.

In 1952, he was named assistant director of Southern States feed distribution service, a post he held until May, 1954, when he was appointed director. In January, 1957, he became director of feed distribution and market procurement for the central Virginia area, a post he held until his present assignment.

Wirthmore Offers 'Sideline' Products

WALTHAM, MASS. — "Big-W" is the trade name for a new line of non-feed products recently offered by Wirthmore Feeds, Inc., to its dealers and others seeking a profitable sideline to their feed business.

Among the new products currently available are anti-freeze, cattle fly spray, Warfarin rat bait, dry fly bait and household aerosols. It is expected that a wide variety of other farm and home needs will soon bear the Big-W label.

Developed by the company's new products committee, manned by sales, advertising and retail department representatives, Wirthmore's newest merchandising program is designed to enable company-owned stores and independent dealers to build business through increased store traffic by city dwellers and suburbanites, as well as poultrymen, dairymen and other livestock raisers, officials said.

Introduced by means of a descriptive brochure, supplemented with informational bulletins, price lists and order blanks, the new line is currently being heavily promoted through an extensive direct mail program. Dealers have been furnished with a series of envelope stuffers featuring unique cartoon characters that will be readily associated with the new merchandise line. Short sales messages stress Big-W benefits, along with retail prices. Similar art and copy treatment has been adapted to truck signs, posters and newspaper ad mats. In addition, an ad was recently placed in Farm Store Merchandising, urging dealers to stock up on Big-W products. Other ads in farm publications suggested that readers get their Big-W products from their local Wirthmore dealers.

Company representatives said that the new line would be expanded as rapidly as possible. Package designs for Big-W Cal-Carb Chips, Big-W Wild Bird Seed and Big-W Sunflower Seeds are among those currently "in the works," it was reported.

Fire Damage $75,000

BERWICK, PA.—H. R. Garrison & Sons Flour and Feed Mill was heavily damaged by fire July 3. Firemen estimated the damage at over $75,000.

Letters to the Editor

Chicken Edema

Cincinnati

To the Editor:

I am writing this with reference to the article in Feedstuffs dated July 2, 1960, concerning the chicken edema matter. There are several errors in the article which we would appreciate having corrected. Itemized, they are:

1. The cause of the condition was not "a tarry residue by-product from chemical and distillation processes."

2. The two firms did not agree "to use the substance in tallow . . . without safety testing its uae in chickens and without advising the feed mills."

3. The statment that "the characteristics of the residue . . . made it essentially undetectable when mixed with tallow," implies that the "residue" consisted of some foreign substance, which is incorrect.

4. It is not true that "the responsible firms . . . have been required to make partial repayment amounting to several million dollars to chicken raisers."

The product which had been ordered by the feed manufacturers as a food additive for chicken feeds was "No. 2 Tallow" and the product which was sold to the manufacturers was No. 2 Tallow. No. 2 Tallow is a well-known low grade fat having specifications which were established years ago in the soapers industry. The feed manufacturers bought according to these specifications. The product which was sold by Emery Industries to Kentucky Chemical In-

(Turn to LETTERS, page 112)

PELLETING—Explaining the operation of a pellet mill to Elmer DeBlieck, owner of the Osco (Ill.) Feed Service are Harvey D. Bush, Madison, Wis., sales manager, and Al. F. Mitchell, Madison, plant manager for International Milling Co.'s Supersweet Feeds division.

Supersweet Feeds Holds Open House at New Madison Plant

MADISON, WIS. — Over 150 feed dealers, visitors and employees were guests of International Milling Co.'s Supersweet Feeds division at a dinner and open house celebrating the grand opening of the new Supersweet mill in Madison.

The celebration began with a plant tour. Guides for the tour included Al Mitchell, plant manager, and Harvey Bush, sales manager.

The tour included an inspection of the nearby plant office and the 50 ton scale and bulk bins adjacent to the plant.

After the tour, guests assembled for dinner. Lloyd Workman, vice president and Supersweet general manager, welcomed the guests and presented portions of the company-produced, sound and color slide film, "A Profile of Progress," to introduce the dealers to the company.

Master of ceremonies for the program was Darrell Runke, Supersweet Feeds general sales manager. He introduced the local employees and other guests, including staff members of the University of Wisconsin and representatives of the Wisconsin Department of Agriculture.

Mr. Runke traced the growth of Supersweet, outlining future plans and explaining Supersweet's dealer and distribution policies.

"The company philosophy," said Mr. Runke, "is that freshly milled feeds are the most desirable from the standpoint of the feeder and the dealer. Rather than ship finished feeds by rail from a large plant many miles away, we believe in having a plant nearby where the feed can be manufactured to order almost on a moment's notice.

"That's the purpose of this plant at Madison, to serve customers in this area immediately with high quality feeds," Mr. Runke commented.

This was Supersweet's 11th plant to go into operation since 1952 and it is the firm's first plant to be erected in the state of Wisconsin. Other plants are in Montreal, Que.; Monmouth, Ill.; New Ulm, and Willmar, Minn.; Des Moines and New Hampton, Iowa; Fremont and Grand Island, Neb., and Salina, Kansas. A new plant is presently under construction at Le Mars in northwestern Iowa.

Tells 'Break-Through' In PPLO Infection

POMONA, CAL. — What was described as a "dramatic breakthrough" in preventing the spread of PPLO infection was outlined by Dr. Tevis M. Goldhaft, general manager of Vineland (N.J.) Poultry Laboratories, at a meeting of poultrymen at California Polytechnic Institute. The disease, it was noted, takes an annual toll of hundreds of thousands of dollars from the nation's broiler industry in the form of mortality, curtailed growth and processing plant condemnations.

Key element in the new disease prevention technique, said Dr. Goldhaft, is to halt the spread of infection from the breeder hen through the hatching egg to the chick by immersing the hatching eggs in antibiotic solutions prior to incubation under an egg dipping patent held by Vineland Poultry Laboratories. Dr. Goldhaft went on to outline extensive study in this field by Dr. Julius Fabricant, Cornell University, Ithaca, N.Y.

In his talk, Dr. Goldhaft also discussed the adaptation of the "fluorescent antibody technique" for diagnosis of various virus and bacterial infections in poultry.

IMC Tells Plans for Portland Facility

PORTLAND, ORE.—The Portland Commission of Public Docks will provide storage and unloading facilities for substantial tonnages of animal and poultry feed supplements to be imported by International Minerals & Chemical Corp., Skokie, Ill.

Raymond M. Kell, chairman of the dock commission, announced the agreement. He was joined in the announcement by Walter C. Hanson, partner in James Farrell & Co., Seattle, general western sales agent for IMC. Mr. Hanson said Portland was most centrally-located as a distribution point for the 13 western states and that the dock commission staff was most active in tackling the problems faced during negotiations.

First shipment of feed supplements from Japan is expected to arrive in December and estimated to amount to 3,000 tons. This will allow time for the dock commission to install storage bins, a marine leg for unloading ships and a portable conveying belt at Pier 1, Terminal No. 4.

FIRM INCORPORATES

BATON ROUGE, LA.—Oak Ridge Grain Elevator, Inc., Oak Ridge, has been issued a certificate of incorporation.

Turkey Prices to Hold Up Till Fall

ST. PAUL — Turkey prices will probably hold up quite well until the last three months of the year, according to Dr. W. H. Dankers, extension economist at the University of Minnesota.

But from October through December, an expected increase in heavy turkeys on the market will most likely lower prices to producers—several cents per lb. below prices for the same period of 1959.

Last summer, turkey prices were rather moderate, prospects for 1960 were modest and producers reduced the number of laying hens for breeding. By Jan. 1, 1960, producers had 3% fewer heavy breed hens and 30% fewer light type hens—or 8% fewer total turkey hens—than a year earlier.

However, interest in turkeys picked up with the sharp price rise in late fall, 1959. Poult orders increased and hatching from January through April of this year was actually 8% higher for the whole country than in the same months a year earlier.

Early 1960 hatching actually decreased among light breeds, but that was more than offset by the increase in heavy breeds. This means fewer small turkeys will reach the market as broilers and fryers and turkey prices from now to October should be above the same period of 1959.

In late 1960, however, turkey meat tonnage marketed will be much above a year earlier.

The turkey outlook is made a bit uncertain by the "heavy white" turkeys—and the fact they can be sold as good quality broilers and fryers before maturity, or as heavy mature birds for later markets. Dr. Dankers points out that if large numbers of these birds hit the market in late summer, much of the expected overload of heavy birds in late 1960 could disappear.

Ohio Swine Day Set for Aug. 19

WOOSTER, OHIO — Disease-free pigs will be the featured topic at Ohio Swine Day Aug. 19 at the Ohio agricultural experiment station. This topic has probably stirred more interest among farmers than any other hog research development in the past 10 years.

Other research to be discussed includes pelleting hog feed, effect of movement of hogs from one pen to another, stimulating little pigs' appetites, antibiotics for swine, the nutrient requirements of gilts for reproduction, sex-influenced performance in swine and the feeding value of an "expanded" processed feed for swine.

Besides these projects, which are further along, mention will be made of experiments in progress. Some of these are the influence of feeding a microbial enzyme, the vitamin B_{12} requirements for pigs on pasture, and the intermittent feeding of antibiotics in dry lot rations for gilts.

The program, under the direction of Dr. H. S. Teague, animal scientist, will be held at the W. L. Robison Swine Center, near Apple Creek.

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Mills Urged Not to Sign Purity Affidavits

SEATTLE—The Washington State Feed Assn., Inc., has issued a bulletin advising feed men not to sign an affidavit or guarantee of any kind that a feed is free of spray residues.

Instead, the association advises the feed men to tell dairy customers that they are protected by state law—"Laws and Regulations Relating to the Manufacture and Sale of Feeds."

The association notes that apparently some feed millers in the Spokane area have been issuing affidavits of purity. These affidavits are guaranteeing purity of feeds, and that they are free from agricultural pesticide residue.

The bulletin goes on to say:

"The problem involved relates to information sent to dairymen by the U.S. Department of Health, Education and Welfare. This department advised dairy men to request an affidavit from the feed miller that all feeds are free from illegal residues.

"From the number of pesticides in various amounts being applied to every conceivable feed ingredient and accidentally drifting from one farm to another, it seems quite impossible for a feed manufacturer to guarantee the purity of his product without extensive chemical testing. Such testing, in many cases, would cost more than the product being purchased by a feed miller.

"Commodities used in dairy feeds or any feed come from foreign countries and many states in the U.S. Many products you purchase are commingled with the same product from many farms or areas.

"It follows that anyone guaranteeing, without chemical analysis, is probably affixing his name to a guarantee of purity on which he actually has little or no knowledge and exposes himself to the logical consequences of misrepresenting a product.

"It would be demoralizing to the feed trade to have a running fight develop because a few dealers might sign, or be panicked into signing, warranties in order to gain sales advantage or grounds which could not be substantiated."

Pfizer Radio Network Reports Broiler Prices

NEW YORK—A new radio reporting service started this month by the agricultural division of Chas. Pfizer & Co., Inc., provides the broiler industry with broiler market data the same day prices are made, Pfizer officials announced this week.

"It is the first opportunity afforded producers to hear complete broiler auction and daily open market reports from all over the nation the same day they are set," a Pfizer spokesman said. He said the new service was a "first" in radio history.

Fourteen radio stations centered in the major broiler producing regions are used to broadcast the broiler price reports. These stations present the same day's broiler quotations plus the next day's exchange offerings, Pfizer officials pointed out. The service is carried over the new "Pfizer National Broiler Network."

How It Works

Pfizer spokesmen said the network price reporting system operates this way: On each market day, a central disseminating office in Washington, D.C., collects closing "broiler" prices from all poultry auctions in the country. At the close of the day's business, the volume and prices received for these birds and the offerings listed for the following day are wired into the central office.

Open prices for the various states from the U.S. Department of Agriculture in Washington are also collected at this same office. Then, all information is consolidated and transmitted via teletype to the various stations on the "broiler network."

In this manner, each station has the report in its possession shortly after the markets close, and in time for a five-minute summary broadcast between 5 p.m. and 6:30 p.m., each day of market operation.

Enhances Existing Reports

J. J. Thompson, Pfizer vice president and general manager of the firm's agricultural division, stated, "The National Broiler Network is designed to enhance existing price reporting services to market-conscious broiler producers around the country."

Quotations for live broilers and fryers of all weights on the farm, as put together in Washington from points around the country, are carried over the following stations: WSVA, Harrisonburg, Va.; WJDX, Jackson, Miss.; WJWL, Georgetown, Del.; WFMH, Cullman, Ala.; WAVU, Albertville, Ala.; WGGA, Gainesville, Ga.; WCHK, Canton, Ga.; KBRS, Springdale, Ark.; KDET, Center, Texas; KWTX, Waco, Texas; WPTF, Raleigh, N.C.; WVOK, Birmingham, Ala.; KTHS, Little Rock, Ark., and WBOC, Salisbury, Md.

Exact broadcast times vary for each station, but all broiler price reports are carried in late afternoon or early evening on days of market operation.

FEED MEN RESIST GUARANTEES

SACRAMENTO, CAL. — The California Hay, Grain & Feed Dealers Assn., in a recent bulletin to members, has recommended that feed mixers do not sign any agreements that will guarantee and indemnify the consumers.

"A number of our feed mixers are being asked to guarantee to the consumer that the feeds do not contain any harmful spray residues and to indemnify the user for all financial losses should the feedstuffs be contaminated," reads the notice.

"We urgently advise you to decline from signing any form or certificate which contains this meaning or a similar meaning. You would be expanding your liabilities for no good reason.

"The consumer on the other hand should not demand such a certificate or guarantee as he is protected under the same laws which govern our industry — the California Feedstuffs law."

The American Feed Manufacturers Assn. also has suggested that feed manufacturers resist requests to give dairymen written guarantees that the feed will not cause any illegal residues in milk. (Feedstuffs, July 9.)

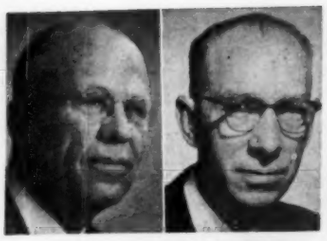
Elevator Firm Sold

LOVELAND, COLO.—Purchase of the Larimer County Grain Co. of Loveland by the Big Thompson Milling & Elevator Co., also of Loveland, was announced recently by Clarence Stump, president of the latter corporation.

The purchase will give the two elevators a combined storage capacity of 186,000 bu. of grain, according to Herbert Southall, general manager of the two plants.

The Larimer County Grain Co. was owned and operated by Robert L. Wilcox, Lee Lorenz and Ken Wright. May 21 the elevator suffered a $17,500 loss by fire, and the storage facilities are currently under reconstruction.

"We plan to continue to operate both plants under the same type of management as in the past," Mr. Southall said, "except that we will have a professional type premix plant for livestock and poultry feeds, and we have spent $20,000 improving our seed cleaning plant."



Arthur Fruen — Sheldon Johnson

Fruen Announces New Chairman, President

MINNEAPOLIS—Sheldon Johnson, treasurer of Fruen Milling Co. since 1941, this week was elected president at a meeting of the board of directors. Arthur B. Fruen, president since 1923, was elected chairman of the board.

George C. Anderson was reelected vice president; A. Bruce Fruen was named treasurer; Roger A. Fruen, secretary, and Richard W. Fruen, a board director.

Mr. Johnson joined Fruen in 1936 as a bookkeeper and became assistant secretary in 1939.

Arthur B. Fruen becomes chairman of the board of directors after 51 years with the firm. He began with the company in 1909.

In his 37 years as president he guided Fruen to its position as one of the most diversified milling operations in the U.S., capable of daily production of 750 tons of grain ingredients for cereals and feedstuffs.

During his presidency, Mr. Fruen introduced Cream of Rye breakfast food.

Clears Enzymes for Medicated Feeds

PHILADELPHIA—A recent ruling of the Food and Drug Administration permits the use of certain enzyme products manufactured by Rohm & Haas Co. in medicated animal feeds. The company reports that the enzyme products covered by the ruling include diastatic, proteolytic and lipase enzymes which are sold under the trademark Rhozyme; pectinolytic enzymes, known by the trademark Pectinol and cellulolytic (cellulase) enzymes.

"Certain of the Rhozyme products, and combinations thereof," the company says, "have been shown to be of value for (1) increasing the feeding value of chick and poultry rations containing western barley; (2) increasing feed consumption, weight gains and feed efficiency of baby pigs on a corn-soya ration, and (3) increasing feed consumption, weight gains and feed efficiency of cattle on low-moisture corn fattening rations."

The recent FDA ruling states that in the opinion of the administration these enzyme preparations may be added to medicated animal and poultry feeds containing drugs which have been approved by the FDA. This ruling does not include the use of the listed enzyme products in feeds containing certifiable antibiotics, but Rohm & Haas reports that it is presently in the process of getting final clearance for this additional application.

The decision is an extension of a previous ruling by the FDA which stated that these enzyme products manufactured are not drugs, but are food ingredients acceptable for use in non-medicated animal and poultry feeds.

Rohm & Haas Co. reports that all the enzyme preparations which it markets for use in the preparation of medicated feeds conform to the manufacturing requirements set forth in the rulings.

FEED FIRM BURNS

LOUISVILLE, KY.—The farm supply firm of Douglas M. Maloney & Sons in Cynthiana, Ky., was burned July 10 in a fire.

Minor Ups, Downs In Ingredient Mart

Only minor price ups and downs were recorded this week in ingredient trading.

Softness slipped into oilseed meals and animal protein feeds. Lighter production and slightly better demand improved wheat millfeeds prices a little. Grain high-protein feeds made modest gains.

Feeds: Average Bulk Prices and Index of Weighted Prices*
(Dollars Per Ton)

	July 12, 1960	July 5, 1960	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	61.25	61.85	— .60
Cottonseed meal	60.45	61.05	— .60
Linseed meal	62.50	63.90	—1.40
Copra cake or meal	66.25	66.25	...
Peanut meal	51.50	51.00	+ .50
Index	79.7	80.5	— .8
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	71.05	71.60	— .55
Tankage	70.00	70.40	— .40
Fish meal	91.85	92.25	— .40
Index	65.2	65.7	— .5
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	42.40	42.40	...
Dist. dried grains	50.60	49.10	+ .70
Brewers dried grains	36.35	36.10	+ .25
Index	67.3	66.8	+ .5
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	36.00	35.40	+ .60
Midds. and shorts	39.85	39.65	+ .20
Index	68.5	67.8	+ .7
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	40.20	40.20	...
Rice bran	28.50	28.50	...
Index	61.6	61.6	...
ALFALFA MEAL			
Prices at prin. mkts.	45.40	45.60	— .20
Index	87.4	87.8	— .4
MOLASSES, FEEDING			
Prices at prin. mkts.	20.79	20.58	+ .21
Index	61.9	61.2	+ .7
ALL FEEDSTUFFS			
Index	73.1	73.4	— .3
FEED GRAINS			
Prices at prin. mkts.:			
Corn	42.20	41.50	+ .70
Oats	46.00	47.40	—1.40
Barley	37.90	37.60	+ .30
Grain sorghums	37.30	36.20	+1.10
Index	67.4	66.8	+ .6

*Base period of index is 1947-49.
Source: Agricultural Marketing Service, USDA.

Pillsbury Picks 'Name The Farm' Winners

MINNEAPOLIS — The Pillsbury's Best feed division of The Pillsbury Co. has announced the winners of its national "Name the Farm" contest.

The first prize of $4,000 worth of livestock or poultry, including Pillsbury Maxi-Lay Queens or Pillsbury's Best feed, plus $1,000 cash went to Donald P. Sevrens, Georgetown, Cal.

His Pillsbury feed dealer, who also won awards in this contest, is Consumer's Co-op, Placerville, Cal.

The second prize winner was Elmer Kopka, Remington, Ind., who entered through McDaniel Feed Store, Fowler, Ind.; while the third prize winner was Lyman Norman of Warrensburg, Mo., whose Pillsbury's Best feed dealer is Wenrich Supply, Warrensburg, Mo.

The contest featured naming the feed division's newest research farm located in Clinton, Iowa.

Cargill to Build

CHICAGO — Immediate construction of a general cargo handling and warehousing facility to serve ocean vessels arriving here through the St. Lawrence Seaway has been announced by Cargill, Inc., nationwide agricultural products firm.

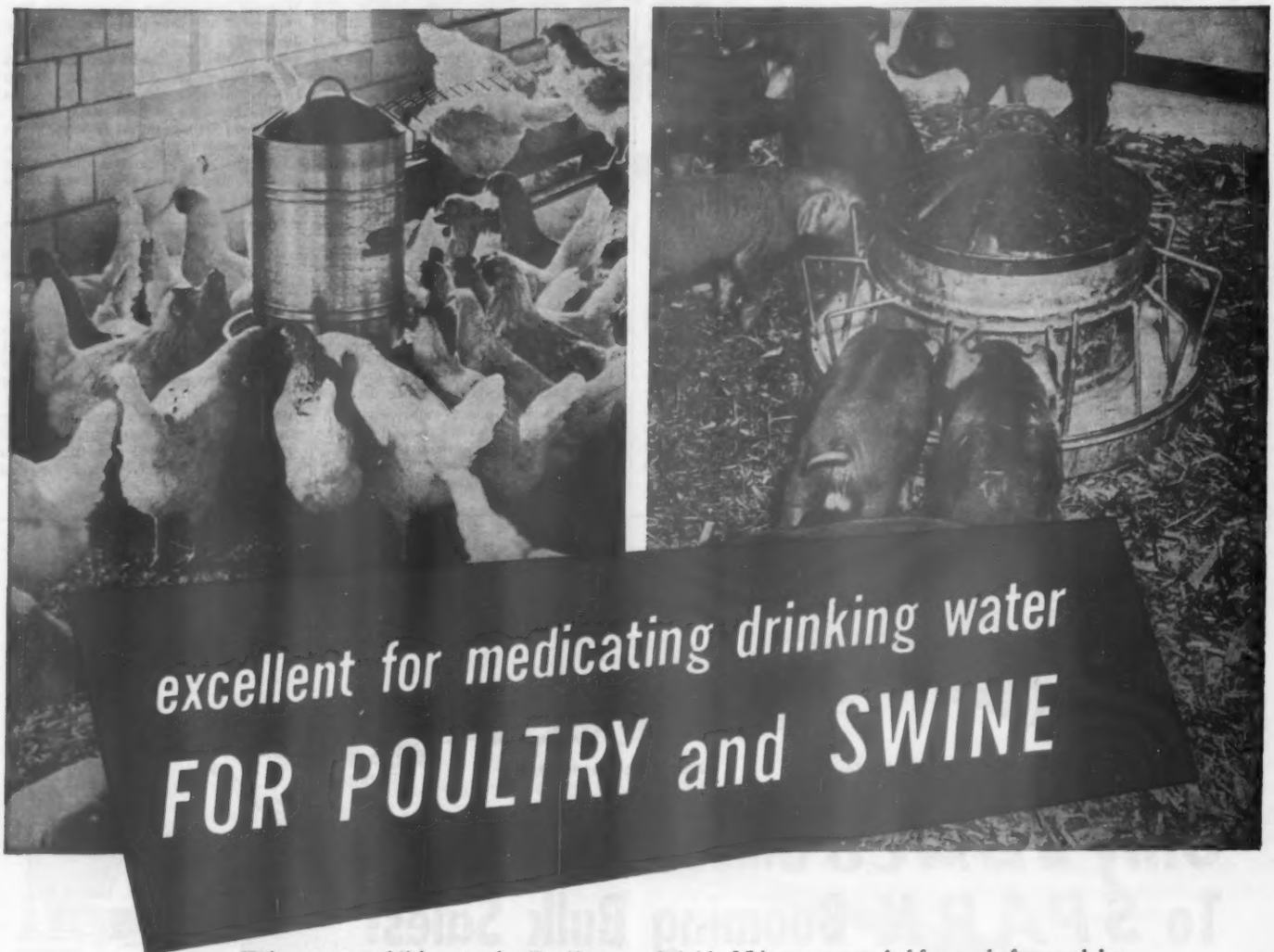
The new import-export installation, to be completed this fall, will be on the Calumet River adjacent to Cargill's 20-million-bushel grain elevator at 122nd and Torrence Ave. in southeast Chicago.

sell your customers

BACIFERM® SOLUBLE-25

(VETERINARY)

ZINC BACITRACIN POWDER



This newest addition to the Baciferm line enables you to furnish your customers the well-known advantages of zinc bacitracin *now in a soluble form*. Each pound of Baciferm Soluble-25 contains 25 grams of bacitracin activity—and will medicate 150 gallons of drinking water for treatment of disease.

For broilers, layers, turkeys and swine, Baciferm Soluble-25 is recommended for use before and during stress periods . . . for maintaining feed intake . . . and for control of such diseases as CRD, infectious sinusitis, bluecomb, bacterial enteritis, etc.

You can get Baciferm Soluble-25 in 50-pound or 100-pound fiber drums. Write for sample and literature that gives you detailed information that you can pass on to your customers.

the buy is BACIFERM Soluble-25 . . the reason is zinc bacitracin

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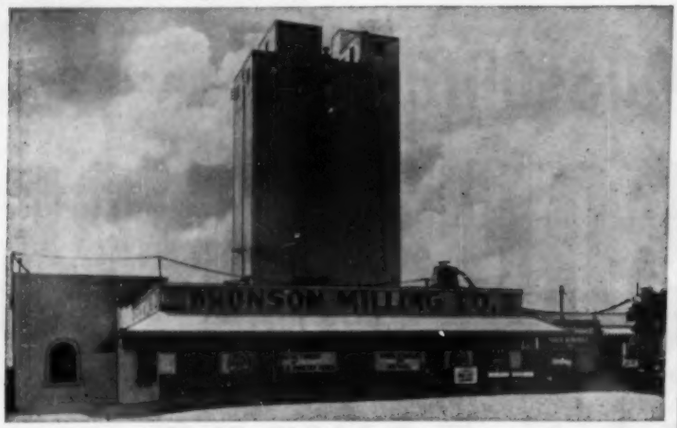


NEW MILL—On the outskirts of Montgomery, Ala., is this new 125 ft. concrete structure housing the Brunson Milling Co. The new semi-automatic mill is set up to handle about 200 tons of feed per eight-hour day. According to the president, the new facilities make Brunson one of the most modern mills in the area, with almost all operations controlled from a central panel on the main floor. New equipment includes a 100 h.p. wide die pellet mill, a 2-ton horizontal mixer and surge bin, a combination pellet cooler, crumbles roll and scalping shoe, automatic all-purpose bagging scale, a 100 ft. travel electric manlift and a 100 h.p. hammer mill. The cost of modernization is estimated at $150,000. Sprout-Waldron designed and equipped the structure.

Precautions Suggested In Using All-Barley Rations for Cattle

CHICAGO — Several precautions should be used when all-barley rations are fed to beef cattle.

This is suggested as part of a "Frontiers in Nutrition" report issued by Dawe's Laboratories, Inc. The report notes that recent developments in cattle feeding point the way to increased efficiency through the use of higher energy rations. Among these developments is the use of all-barley rations for fattening cattle in areas where barley is an economical grain. In this application, the barley furnishes both grain and roughage.

"Several precautions should be used," the report states. "One, of course, is proper care in changing from a high-roughage feed to a high-grain feed. Another precaution is that rolled barley seems preferable to either untreated whole grains or ground barley.

"A final precaution is to recognize the deficiencies of barley and supplement these as needed. Barley is low in minerals and it does not supply fat-soluble vitamins. A properly formulated supplement must be fed along with the barley if good results are to be obtained."

VPI Scientist Discusses Use of Reserpine for Chickens and Turkeys

BLACKSBURG, VA. — In a recent Virginia Polytechnic Institute report, Dr. H. S. Siegel, VPI poultry scientist, outlines data and comments on use of the tranquilizer reserpine to protect chickens from hot weather and turkeys from aortic rupture.

Dr. Siegel said tests at several universities on the use of reserpine for layers indicate that the drug "offers some protection to laying flocks when temperatures exceed 85° for extended periods. In controlled experiments where temperatures exceeded 95°, hens treated with reserpine laid 5% more eggs and maintained about ¼ lb. more body weight than those not treated.

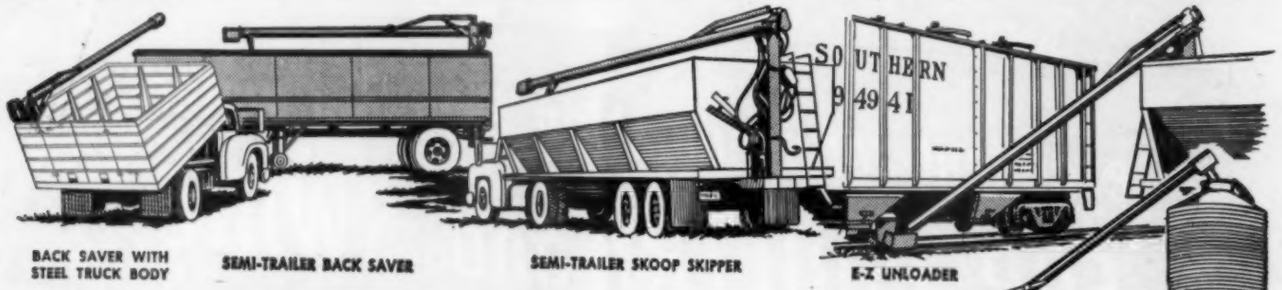
"At present, recommended levels for laying birds are 1 part per million in the feed. To be effective, the drug should be in the feed three to four days before temperatures rise. Feeding should therefore be continuous during the summer months. Whether or not the cost of the drug is justified has not been determined. Certainly the first line of defense against high temepratures should be to provide a cool house. And be careful about using reserpine during cold weather, since it may lower metabolic activity and cause egg production to drop."

Since reserpine can reduce blood pressure, it protects against aortic rupture in turkeys, Dr. Siegel continued. In this condition a major blood vessel, the abdominal aorta, ruptures, causing massive hemorrhage and almost immediate death.

"The turkey has a relatively high blood pressure and seems to be more prone to aortic rupture than other fowl," Dr. Siegel notes. "Workers at Michigan State University found that reserpine fed 0.5 ppm in the feed to turkeys results in almost immediate relief.

"Where outbreaks of aortic rupture occur, feed the birds 0.5 ppm for five days, then feed at the level of 0.1 ppm for two weeks. If the condition reappears, a maintenance dose of 0.2 ppm may be useful. Feeding at levels as high as 0.5 ppm for an extended time may cause reduced weight gains, so be careful not to extend the treatment level for too long."

SPEAKS TO DEALERS—Garold Babcoke, sales manager, Wisconsin district, McMillen Feed Mills, Fort Wayne, Ind., spoke during the formal part of the program recently during the Master Feed & Seed Co. open house and dealer program held in Madison, Wis. (Feedstuffs, June 18). Looking on are: E. E. Reynolds (left), manager of feed sales, McMillen Feeds Mills, and Al Kovats, manager, western sales division, McMillen Feeds Mills. Mr. Babcoke makes his headquarters at the Master Feed & Seed Co. in Madison.



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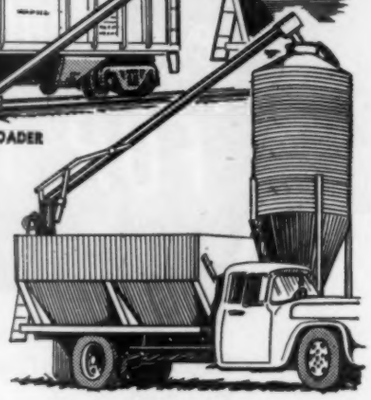
Only PAMCO Unloads AND Loads To SPARK Booming Bulk Sales!



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Skoop Skipper . . . tank stabilization. Standard 2, 3, or 4 compartment units. Pamco positive seal assures against leakage of materials. Dispersing auger for loading leads into each compartment. Double gate per compartment standard for each unit.

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FEED LOT FEEDING TRIAL PROVES:

CATTLE GAIN MORE AT LESS COST, WHEN FED MORTON T-M SALT

Average more than 9 lbs. extra gain per head at a saving of $1.34 per cwt. of gain during 109 day trial at Monfort Feed Lots, Inc., Greeley, Colorado.

How the feeding trial started. On July 23, 1959, Mr. Kenneth Monfort agreed to make a comprehensive divided lot test comparing Morton Trace-Mineralized Salt and plain salt. From a shipment of good quality Angus heifers received from San Saba, Texas (averaging about 550 lbs.) Mr. Monfort had 146 placed in lot #67 and 148 in lot #70.

For a period of forty-three days before the actual test was to start, all 294 cattle were fed identical rations with plain salt.

After 43 days the test began with the cattle being weighed up. The cattle in lot #67 remained on plain salt while the cattle in lot #70 received Morton T-M Salt instead. All other feeds were identical. The average daily ration consisted of 9 lbs. silage (green chop silage and silage out of pit), 16 lbs. grain mixture (approximately 10% dried beet pulp, 35% corn and 55% milo), 1½ lbs. dehydrated alfalfa and 1 lb. of shorts pellets with stilbestrol.

At the end of the feed lot trial on December 8, both lots of cattle were weighed out and feeding costs were calculated. The T-M fed cattle in lot #70 registered an average extra gain of 9.26 lbs. more than the cattle in lot #67 which were fed plain salt! What's more, the cost of gain for lot #67 was $19.97 per cwt. compared to $18.63 per cwt. for the cattle fed Morton T-M Salt in lot #70! The savings with Morton T-M were a profitable $1.34 per cwt. of gain!

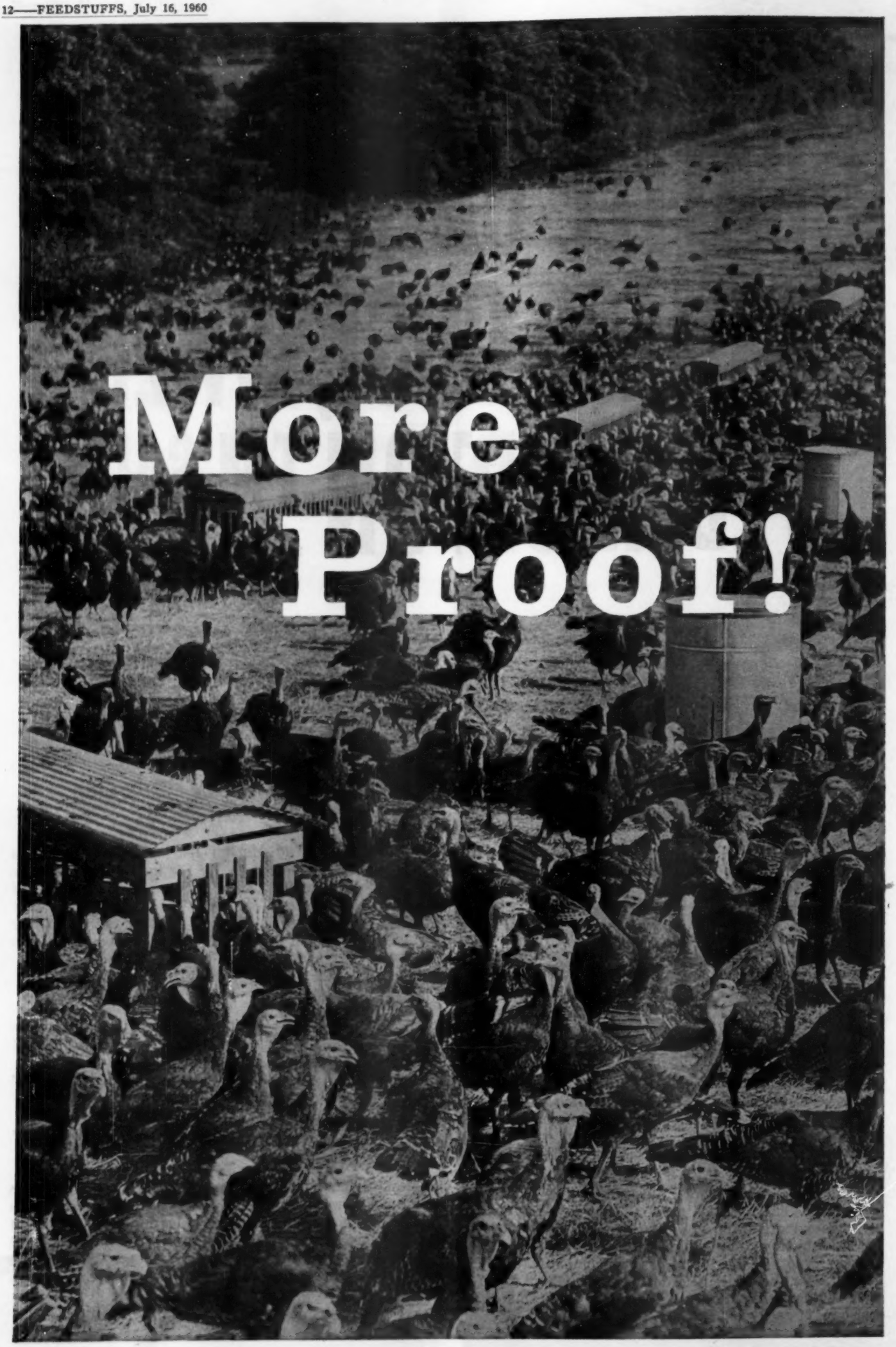
The cost of feeding Morton T-M Salt for the entire 109 day test was less than 17¢ per head more than the cost of feeding plain salt for 109 days! For an extra 17¢ per head for Morton T-M, the Monforts saved $1.34 per cwt. of gain and got more than 9 lbs. of extra gain per head. Figure it out for yourself how much more you can make feeding Morton Trace-Mineralized Salt!

"This divided lot test sold us on the value of Morton T-M Salt. Using these test results, believe that we couldn't afford to feed cattle plain salt, even if we got it free."

Kenneth Monfort

Show this to your customers. Let them know these test results were obtained from the exclusive formulation of trace minerals and salt available only in Morton T-M Salt. When customers read about this test, they'll want Morton Trace-Mineralized Salt for sure. So be sure you have enough on hand. Order now from your Morton salesman or write:

Morton Salt Company—Chicago 6, Illinois


More
Proof!

Histostat®-50 prevents blackhead best,

Scores highest on every point

That's right! Now there's even more proof that Dr. Salsbury's Histostat-50 prevents blackhead best and gives your feeds other profit-building extras your customers need today. The 1959 Turkey Disease Control Report published by the University of Minnesota summarizes research showing the effect of selected feed-additive compounds in protecting turkeys against blackhead and their effects on growth rate and fleshing. In this study, *Histostat-50 scored highest on every point:* It prevented blackhead best; Histostat-fed birds had better fleshing; they were best in feed efficiency among all commercially available compounds tested; and Histostat-50 birds had the highest average weights in this test.

Histostat-50 is also one of the most economical of all turkey disease preventives. Even on a continuous program, medication costs only a few cents a bird—one or two turkeys saved will pay for enough Histostat-50 to medicate 100. It is palatable—birds don't back away from medicated feed. And Histostat-50 is chemically stable—it will not lose its effectiveness during handling or storage.

Yes, Histostat-50 has been proved in the field and in the laboratory to be the No. 1 blackhead preventive. Also, Histostat is an "old drug"that does not require special paper work for FDA clearance. Phone, write, or wire today for a copy of the Minnesota Turkey Disease Control Report referred to above; and ask for your copy of Feed Manufacturer's Guide No. 16. Or, ask for Dr. Salsbury's technical service adviser to call and personally answer your questions about using Histostat-50 to formulate a superior turkey feed.

Dr. SALSBURY'S LABORATORIES
Charles City Iowa

NATIONWIDE SERVICE TO THE FEED INDUSTRY

Missouri Group Studies Residue Problem in Feeds

COLUMBIA, MO.—A committee of University of Missouri College of Agriculture faculty members recently reported on its study of chemical residues in human foods and animal feeds.

Here are some of the committee's findings, and some recommendations resulting from the study:

As soon as a new compound shows promise for agricultural use, detailed research is started to obtain data on any possible harmful effects the chemical might have. This research is in addition to the detailed studies needed on performance of the chemical against both pests and beneficial organisms.

These tests, which must be made before a chemical can be marketed, take three to five years.

Based on this research, a dosage level which is safe for rats is determined. Then the upper limit for residues of this chemical in human food is set at approximately 1/100 of that shown to be safe for rats.

The committee report noted that with some foods, such as milk, no residue of any chemical at any level is permitted, regardless of whether or not the research showed the chemical had harmful effects.

Agricultural chemicals — fertilizers, insecticides, herbicides, growth stimulators and disease control materials—are as important to food production as tractors, hybrid seeds and improved livestock, the report said.

First consideration must be protection of public health from harmful amounts of chemical residues in food supplies. On the other hand, the committee said, threats to safe, effective, and needed uses of these chemicals are a real danger to both the quantity and quality of the national food supply.

New and revised legislation is needed to clear up some of the current agricultural chemical residue confusion, according to the report. The committee recommended immediate revision of existing legislation and regulations which result in chemical residue tolerances being set by considerations other than scientific applications of residue research.

The committee also called for regulatory policies, similar to those which apply to human drugs and medicines, that would provide realistic residue tolerances when they are not a hazard to the public health. These policies would allow necessary and practical use of agricultural chemicals.

Another recommendation was legislation to prevent entire segments of agriculture from being condemned because a small percentage of the total products are in violation.

Along this same line, the committee recommended measures which would prevent a regulatory agency from using procedures and publicity which tend to cause fear and hysteria among the general public.

A final recommendation was for increased state research facilities to allow residue determinations to keep pace with the increasing amounts of performance research on agricultural chemicals now being done.

The committee's complete report has been published in booklet form and copies can be obtained by writing the Dean's Office, College of Agriculture, Mumford Hall, Columbia.

CALIFORNIA FEED DEALERS

SACRAMENTO, CAL.—New members of the California Hay, Grain & Feed Dealers Assn. include Cal Fed Feeding Co., Brawley; Dairymen's Feed & Supply Co., Petaluma; Producers Grain Corp., Colton; J. W. Flammer Co., Downey; the Hays Corp., Los Angeles; Los Angeles Harbor Grain Terminal, Wilmington; Offutt's Hay & Grain, Cotati, and George Milling Co., Inc., Canoga Park.

New Group Formed For Forage Research

MINNEAPOLIS—A new organization, Farmers Forage Research Cooperative, has been formed for the purpose of expanding basic and applied research on forage crops. This announcement was made by Eldon Olson, Land O'Lakes Creameries, Inc.

The organizational meeting was held recently in Chicago. Elected officers are: Eldon Olson, Land O'Lakes Creameries, Inc., president; Evart Vander Meulen, Calapproved Seed Growers Assn., vice president; Oliver Lamont, Wisconsin Farmco Service Cooperative, secretary-treasurer.

Membership is confined to farmer-owned cooperatives who are in seed production or seed distribution. FFR is designed to provide seed research and varietal development of forages for the benefit of American agriculture—to foster seed research and development of techniques resulting in better service to the consuming farmer.

Present plans of the new organization are to assist the applied and basic research activities of public institutions through the vehicle of grants. A plant breeding program will be initiated.

Charter members of the organization are: Calapproved Seed Growers Assn., Eastern States Farmers' Exchange, Inc., Farm Bureau Cooperative Assn., Inc. (Ohio), Farm Bureau Services, Inc. (Michigan), Farmers Elevator Service Co. (Iowa), Indiana Farm Bureau Cooperative Assn., Inc., Land O'Lakes Creameries, Inc., Southern States Cooperative, Inc., Tennessee Farmers Cooperative, and Wisconsin Farmco Service Cooperative.

GRAIN EXECUTIVE DIES

SPRINGFIELD, TENN. — Thad Lester Corbin, 55, head of the Corbin Grain Co. here, died unexpectedly of a heart attack recently.

McCabe Grain Company Limited

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exclusive Sprout-Waldron Self Wins Customers

Just as the original Sprout-Waldron pneumatic Feed Piper Bulk Trucks changed our concept of feed handling and distribution, the exclusive and patented pneumatic self loader gives a new dimension to efficient handling and customer service. Here are just a few of the jobs made possible with the Sprout-Waldron self loader. You can...

S-W self loader emptying a box car.

Feed being transferred from rail car to bulk truck.

S-W self loader mounted on stake body.

- Handle deliveries efficiently, with one man.
- Pick up feed from rail cars, nearby towns.
- Remove unused feed from a customer's bin so that is can be replaced with a new formula or medicated feed for a sick flock.
- Start bulk deliveries without waiting for overhead bins to be installed or eliminate overhead bins in a bulk station entirely.
- Pick up grains from customer and bring them back to your mill for processing.
- Remove feed from cars that may have to be respotted or which may be delayed in unloading.
- Help a customer move his feed from old bins to a new poultry house.
- Load feed during a breakdown of bulk loading station elevator.
- Vacuum clean sections of your mill or help clean up customer's feed bins.

The Sprout-Waldron self loader . . whether it be an integral part of your standard or Economy Feed Piper pneumatic bulk truck, mounted on a stake or van body unit, or put to use in any one of a dozen different ways, provides you with a portable material handling device which saves time, money, and backbreaking labor . . and helps you provide the type of service needed to win and hold customers.

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Exclusive Australasian Distributors: Jaybee Engineering, Pty., Limited, Dandenong, Victoria, Australia

Comment on Vitamin A Needs, Supplementation

CHICAGO — Increased interest in vitamin A requirements has been observed, and information and comments on this subject and vitamin A supplementation are part of a recent bulletin, "Frontiers in Nutrition," issued by Dawe's Laboratories, Inc.

There are indications that generally accepted requirement data may be too low for optimum results, the report notes.

High nitrate content of feed may interfere with the conversion of carotene into vitamin A. This is one possible explanation for the appearance of vitamin A deficiency symptoms in cattle receiving rations otherwise adequate in vitamin A activity. It is generally recognized that under conditions of extreme drouth, there may be a need to add supplemental vitamin A to cattle feeds. Experiences at the Illinois Experiment Station and elsewhere during the past year have suggested that the need for supplemental vitamin A may be much greater than usually assumed, the Dawe's report points out.

Following publication of observations in which the vitamin A levels seemed to be limiting, many authorities have suggested that the full NRC recommended levels of vitamin A should be added in addition to the vitamin A activity which may be obtained from roughage.

"We must keep in mind that most of the plant sources of vitamin A activity are actually carotenoids which the animal must convert into vitamin A," the report continues. "It is well known that the efficiency of conversion of carotene into vitamin A varies between different species. For example, the laboratory rat and most poultry can obtain approximately 1600 USP units of vitamin A activity from 1 mg. of pure beta-carotene. At the other extreme, cattle obtain only approximately 400 USP units of vitamin A activity from 1 mg. of beta-carotene. According to NRC Publication 648, 1 mg. of beta-carotene equals 533 units of vitamin A for the pig. This is a lower activity than was used by most authorities until quite recently.

"These considerations obviously reduce the vitamin A activity values commonly assigned to plant materials. Now we are faced with the further problem concerning nitrates and possibly other materials which may interfere with the assumed conversion of carotene into vitamin A. The situation requires reexamination of the vitamin A values of feedstuffs and the quantitative needs of farm animals. Extensive work along these lines is in progress, but considerable lead time is needed in order to get answers from research and apply these answers to practical feeding."

Nutritionists Report On Cholesterol Study

BERKELEY, CAL. — Substitution of safflower oil for the mixed animal and vegetable fats in the regular human diet results in a substantial drop in the amount of cholesterol retained in the bloodstream, University of California nutritionists report.

This information is disclosed in a report on an experimental study conducted by Dr. Ruth Okey, Melvin Lee, Mary Conrad Hampton and Peter Miljanich of the department of nutrition and home economics on the Berkeley campus with the cooperation of the California State Department of Corrections.

Thirty selected volunteers in the California Men's Colony, a minimum security prison for older men at San Luis Obispo, participated in the experiment.

The study was designed to measure the effect on blood cholesterol of substituting safflower, an unsaturated fat rich in linoleic acid, and coconut oil, a saturated fat, for some 80% of the mixed fats in the regular prison ration.

The nutritionists found that the safflower oil diet resulted in a sharp fall in blood cholesterol.

In direct contrast, the feeding of coconut oil produced an increase of cholesterol above that of mixed fats.

The researchers believe their findings suggest that the linoleic acid in safflower oil prevents accumulation of cholesterol in the blood stream.

Named Vice President

ST. CLAIR, MICH. — Edward M. Dodd, a veteran of more than 20 years in the industry, has been elected a vice president of Diamond Crystal Salt Co., Charles F. Moore, president of the firm, has announced.

Mr. Dodd, assistant to the president, joined Diamond Crystal in April, 1957, after its acquisition of Jefferson Island Salt Co. At Jefferson Island, Mr. Dodd was vice president in charge of production and represented the company with the Salt Producers Assn.

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REMOVES . . .
Cecal . . . Tape . . . and Large Round Worms in Chickens or Turkeys.

DOUBLE STRENGTH . . .
1 lb. per 100 lbs. feed treats 500 chickens, or 250 turkeys.

MIX IN YOUR FEEDS . . .
Your feed plus TRIMINTIC will make happy customers. It is a "full dose" 1-day treatment. Birds do their own worming. Packed in convenient 20-lb. polyethylene bags. No loss in mixing ton lots.

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Land O'Lakes Pig Milk Replacer saves orphaned pigs as no other product can because this is a *milk product*. Contains 10% fats, has 22% extra calories. Suggest it to your customers for situations in which the sow won't or can't nurse, is sick or dies.

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Land O'Lakes® Pig Milk Replacer

LAND O'LAKES CREAMERIES, INC., MINNEAPOLIS 13, MINN.

Feed Man Tells of Experience with Milo Range for Turkeys

LAFAYETTE, IND.—"The cost of grain in the feed constitutes the largest individual cost of growing turkeys, therefore, it only seems logical to look to this area for savings," David B. Graham, Graham Brothers, Inc., Washington, Ind., said at the Purdue Servicemen's Clinic.

Mr. Graham stressed the importance of lowering feed costs, pointing out that half the cost of raising turkeys is the cost of feed and half the cost of feed is the cost of grain. Mr. Graham's firm manufactures Graham Farms Feeds.

Mr. Graham related some of his firm's experiences with grain sorghums for turkeys.

He said that his firm uses milo, pointing out that the advantage of milo on range is that it provides high protein forage—in the leaves—as well as excellent carbohydrates in the grain.

Mr. Graham pointed out that turkeys will eat standing milo grain and thrive very nicely on it.

He said that last year, his firm placed one group of 6,000 broad breasted bronze turkeys into a milo field right after the grain had been harvested. These were fed a 20% pelleted concentrate and grain free choice.

"The turkeys not only ate these leaves, but also the grain that the combine missed," he noted. "The important thing to note here is that the leaves were very cheap feed, since the milo had already been harvested."

He stressed the importance of selecting a strain of milo growth which has uniformly low heads. He noted also that birds will not trample milo, since they walk between the rows.

He said that the yield of milo for any given acre will be very similar to corn. Which means if one normally gets 100 bu. of corn per acre, he will get 5,600 lb. of milo.

"It appears to me that there are two problems which determine how much milo you should plant," he said. "The first problem is how much milo your turkeys should have for a balanced ration with the concentrate. The second problem is how much milo grain turkeys will actually eat.

"The person who figures out the answer to these two problems will have solved the technique of feeding milo grain sorghum."

In principle, Mr. Graham said, the milo feeding program makes sense because it eliminates the cost of harvesting, trucking and storing the grain as well as hauling it back to the field in the form of feed.

In addition to the milo grain, he added, the birds eat the leaves, and this is an excellent source of high protein forage.

He warned to beware of false or misleading figures. "Remember that it is the net cost that counts, and it might be that your present program is the cheapest.

"We must not sit on our hands and be satisfied with present feeding methods," he cautioned, "if we want to stay ahead of our competitors."

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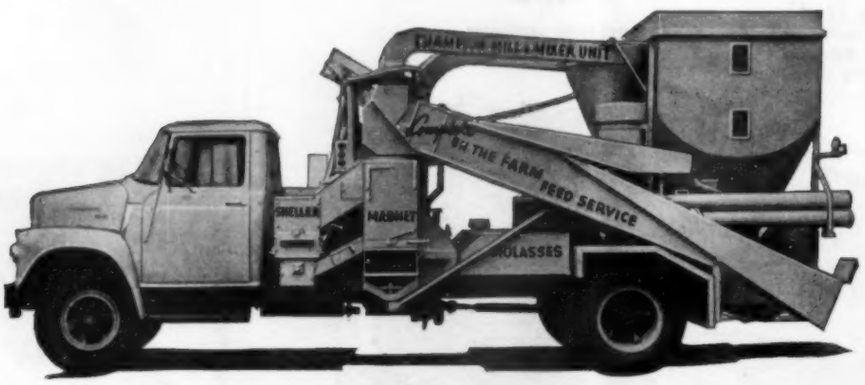

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Peavey Milling Units In One Operation

MINNEAPOLIS—The milling division of F. H. Peavey & Co. henceforth will be known as Russell Miller-King Midas Mills, but with no change either in product brands or in facilities serving the trade.

This decision was made recently by the board of directors of the parent company, and announced by Totton P. Heffelfinger, president of F. H. Peavey & Co.

W. M. Steinke, president of Russell-Miller Milling Co., and H. E. Kuehn, executive vice president of King Midas Flour Mills, will continue to head the management of the new grouping, with Mr. Steinke as president and Mr. Kuehn as executive vice president.

Thus, two of the oldest names in U.S. flour milling, Occident and King Midas, which were first linked 6½ years ago when Russell-Miller became a wholly-owned Peavey subsidiary, are now joined in a single operation.

The newly-established division operates 10 mills.

Integration Trend Topic at NEPPCO Co-op Unit Meeting

CAPE COD, MASS.—A trend toward integration and its overtones of production control was noted in a discussion recently as 40 representatives of the Northeastern Poultry Producers Council division of cooperatives met here for the group's annual Business Management Conference.

The discussion, "Who Will Market Tomorrow's Eggs?" was led by Tom Morrison of the University of Connecticut.

Integration will be one of the future developments, the forum agreed, and it was seen as taking any one of three forms—contract production, contract marketing and producer integration, perhaps under the banner of marketing cooperatives.

Some sort of integration is likely, the conferees agreed. Co-ops that include feed sales are likely to fare better than those that do not, they added. Yet the latter might well fit into this integrated pattern by being a financial factor. Those who provide the money are likely to "call the tune," it was said.

Five major roundtable discussions made up the program of the two-day meeting. The leadoff session on pricing of eggs to producers was one of the highlights.

Nine major points were developed during the session led by Ellsworth Bell, University of Massachusetts. Producer payment plans should:

"(1) Recognize a general market level of prices or, in other words, a base starting point;

"(2) Reward quality;

"(3) Reward consistency and continuity of quality egg production;

"(4) Reward regularity of shipment;

"(5) Reward high volume;

"(6) Reward evenness of shipment;

"(7) Include a signed market agreement;

"(8) Insist on fulfillment of delivery and shipping requirements, and

"(9) Membership relations must be such that poultrymen recognize the agreement under which pricing is determined as a fair and equitable one."

Two kinds of promotion are needed for the poultry industry, a roundtable led by Theodore Royal, New York advertising executive, decided. An "umbrella" program to push all eggs and poultry, such as that carried on by the Poultry and Egg National Board, should be utilized, backed up by specific brand name promotion.

At the brief business session that concluded the conference, John Melhorn, Coatesville, Pa., was named as the producer member from the division to NEPPCO's executive committee. C. H. Strains was re-elected as division chairman; C. T. Newsom, as vice chairman, and Alfred Van Wagenen as secretary.

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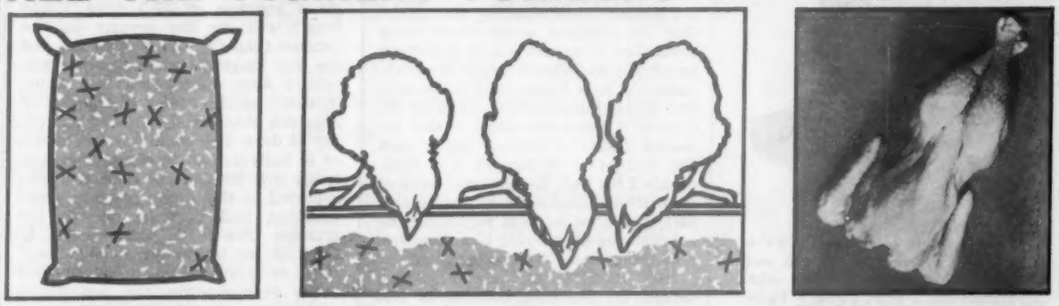

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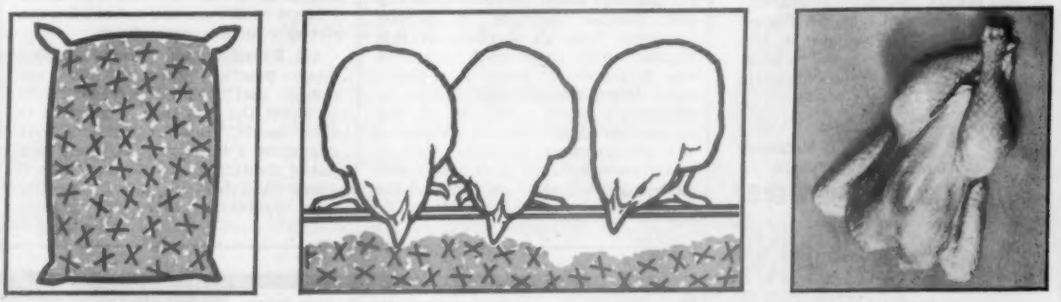

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What you should know about DOG FOOD

Whether you're in the dog food manufacturing business or have considered putting your label on a dog food, the new Dog Food Ingredient Spec Sheets published by Ralph WELLS & Co. are "must" reading. Each 8½ x 11" sheet covers in detail one of the seven major dog food ingredients manufactured by WELLS; provides full size, full color product photos . . . ingredients features . . . guaranteed and average analyses . . . ingredient breakdown . . . and shipping container data. These spec sheets set standards by which to judge the quality of all your dog food ingredient purchases. They're *FREE* . . . just write to

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Random Reports and Comments on Selected Papers from Annual Meeting of American Dairy Science Assn., June 19-22, 1960, Logan, Utah.

PART I

The annual meeting of the American Dairy Science Assn. continues to attract numerous college and commercial researchers and seems to become bigger and better every year. Although it was felt that the western state location of the annual meeting might possibly hold down attendance, such was not the case, and one of the largest meetings on record was held. Almost 250 scientific reports were made on the various fields of production, manufacturing and extension. In addition, symposiums were conducted by expert panels on several important aspects of dairy research, including milk lipids; milk solids-not-fat; facts, fallacies, and conflicts affecting demand for dairy foods; reducing milk production costs; and the evaluation of forages. The Honorable Ezra Taft Benson, secretary of agriculture, also gave an interesting and important address regarding the relationship of dairying to agriculture and the general farm price program.

Such meetings as these serve as a means of renewing friendships and enable one to do considerable "corridor talking" about unreported results and possible solutions to current problems. Like all meetings of this nature which have mushroomed in size during recent years, it is physically impossible for one person to adequately cover a meeting of this magnitude since many good papers are presented at the same time in the various sections. This may result in a one-sided slant on some of the research and the ignoring of equally commendable research papers. Just perusing the abstract or mimeographed paper will not suffice in many cases, since the author(s) will often make statements or answer questions quite frankly of which no written record is usually made.

However, of the many papers presented, certain ones appear to offer practical ideas for the feed industry and are reviewed briefly below along with some of my own comments:

(1) Fletcher, USDA, ARS, Iberia, La.—Observed 1276 estrous cycles in 154 cows and heifers including 100 Jerseys and 54 Sindhi-Jersey crosses from 1948 to 1956. Only 51.8% of the cycles were within the so-called "normal" range of 17 to 24 days, with a mean average of 20.5 days. Cycle length was one day greater for the Jerseys than for the crossbreds, and one day longer in milking cows than heifers. Apparent anestrus was shown in 40.6% of the cycles if a period of anestrus is assumed in cycles exceeding 24 days. The condition was greater in heifers than in cows. The relatively low numbers of normal cycles reported in this study are somewhat puzzling, and may be due to the warmer climate in this section of the U.S., or to exhibition of "silent" heat, or other unknown causes. This study reemphasizes the importance of being aware of differences which can occur in farm animals kept under various conditions and not relying too strongly on average figures.

(2) Pounden and Frank, Ohio—Some practical farmers have observed that different forages seem to affect the incidence of mastitis in their herds. These researchers have conducted studies over the past few years showing that actually there is some basis for this belief. The forages containing estrogenic activity (clovers, alfalfa, etc.) were found to stimulate greater mastitis incidence, especially during the period beginning one month post-freshening and ending when the animals were pregnant. For those cows on which heat records were available the greatest number of attacks occurred between the third and ninth days post-heat. It was also observed that diethylstilbestrol in low concentrations stimulated the growth of some mastitis-producing bacteria but inhibited the growth of such bacteria in higher concentrations.

(3) Stillions et al., New Jersey—Although more use of fertilization on meadow crops has been advocated by farm management specialists and agronomists, relatively little of the data on which recommendations have been made are based upon digestibility studies. Most recommendations are based upon increased productivity of crop, stand management, etc. The New Jersey workers compared high nitrogen fertilization (conventional or foliar spray applications of 100 lb. N per acre) with low (50 lb. N conventional per acre) rates on orchard grass hay harvested in the early boot stage. Alfalfa hay, second cutting, served as the comparison standard. The alfalfa hay and low N hays were grown in the central section of New Jersey while the high N hays were grown in the northern section of the state. From previous experiments conducted at this station it was indicated that one might expect that the high N hays would be superior to the low N hay and equal in nutritive value to the comparison standard, alfalfa hay. Actually this was not the case, since the alfalfa hay had significantly higher T.D.N. than any of the grass hays, and the low N orchard grass hay showed significantly

(Continued on page 22)

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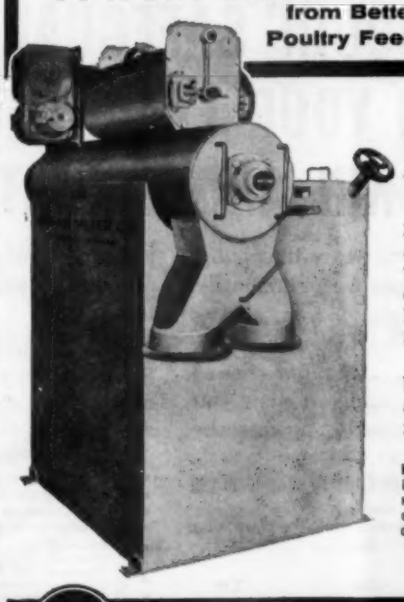

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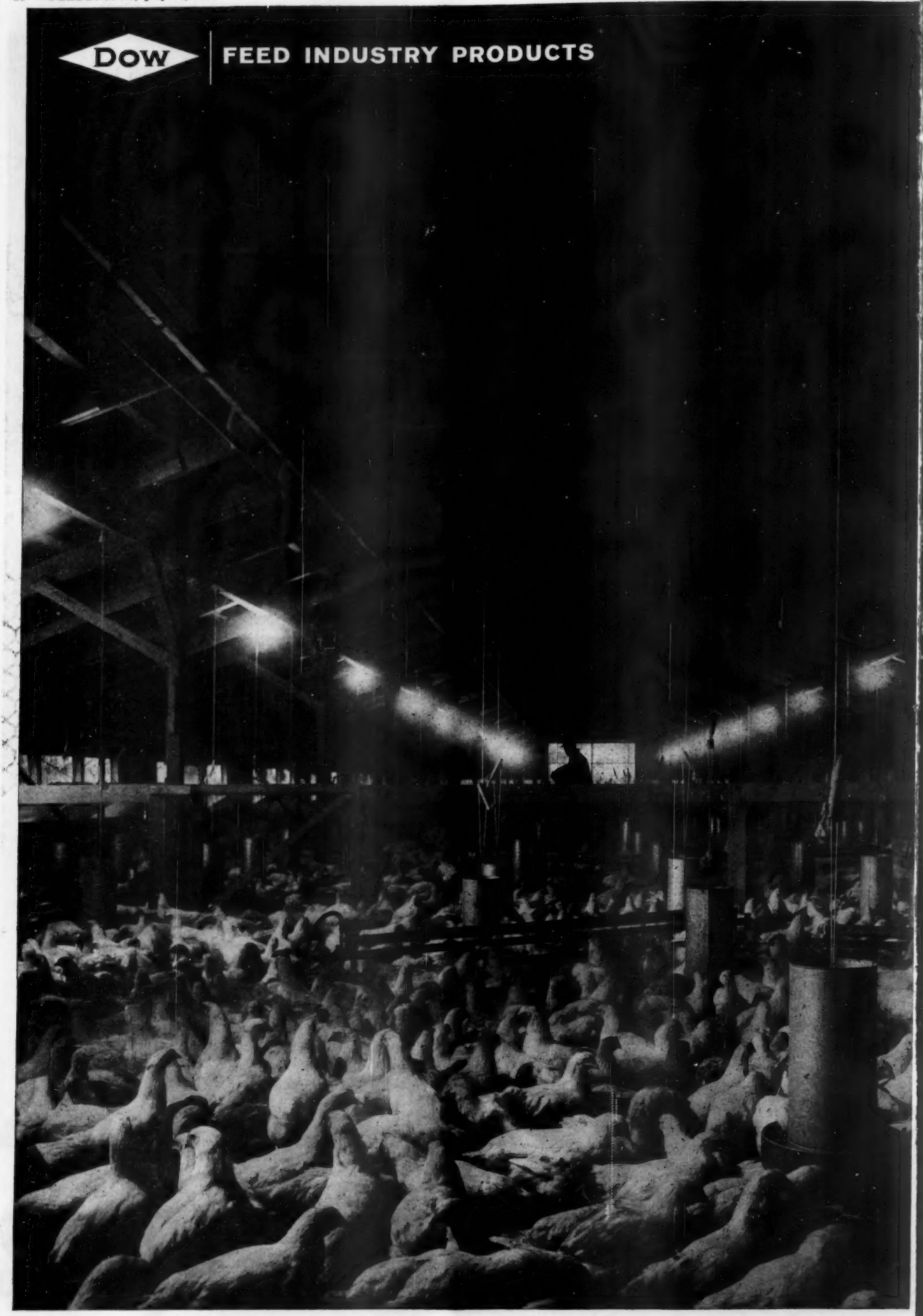

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The results of comparative feed trials are shown in the chart below. Very often 10,000 birds will return an extra $250.00 profit (frequently much more) over flocks fed other coccidiostats.

RATE OF GAIN AND FEED CONVERSION COMPARISONS

	Zoalene® Compared with Following Coccidiostats	A	B	C	D	E	F	Totals
	Number of Comparative Tests	29	15	16	23	5	6	94
NUMBER OF TESTS IN WHICH:	Zoalene Superior for Weight Gains	28	14	16	14	5	6	83
	Other Coccidiostat Superior for Weight Gains	1	1	0	8	0	0	10
	No Difference in Weight Gains	0	0	0	1	0	0	1
	Zoalene Superior for Feed Conversion	26	10	14	15	2	6	73
	Other Coccidiostat Superior for Feed Conversion	1	2	2	7	2	0	14
	No Difference in Feed Conversion	2	3	0	1	1	0	7

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more T.D.N., and greater digestibility for N.F.E. and ether extract. It is apparent that soil type, location in state, etc., influence the digestibility of hays fully as much as fertilization and method of application. Foliar application of N increased the digestibility of protein and crude fiber when compared with the conventional N applications at the same level. However, the foliar application did produce a slight burning effect.

(4) Miller and Dalton, Georgia—Various levels of Citrolas crumbles (33% citrus molasses, 20% citrus meal, 37% citrus fines, 10% ground citrus pulp) were added at various rates (149, 274, or 425 lb. per ton of fresh forage) to silage and compared with a control lot containing no additive. Each silage was made in an 8 x 24 ft. experimental tower silo. The addition of Citrolas crumbles was not beneficial since more seepage was observed when added, the seepage was of higher dry matter content, and more silage was consumed by milking dairy cows per 1,000 lb. bodyweight. Apparently this product is too soluble to be a good additive for use as a silage preservative.

(5) Gordon et al., USDA Beltsville, Md.—Presented a report covering two experiments to determine the effect of wilting on the feeding value of silages. It was quite definitely shown that according to their results wilting is a very satisfactory method of preserving the feeding value of forage crops when compared with barn-dried hay made from the same crop at the same time. The feeding value of the wilted silage approached that of hay in one trial and exceeded it in the other. However, the feeding value of direct-cut unwilted silages was consistently below that of hay, and direct-cut harvesting methods are likely to produce a product of considerably lower value than wilted silage or hay.

(6) Brown et al., Michigan—Conducted an extremely interesting experiment in terms of net results. Dehydrated alfalfa pellets (0, 0.75, 1.5, or 3.0 lb. per day for 90 days in trial 1 and 120 days in trial 2) were fed to milking cows receiving a high corn silage (40 lb. daily) and timothy hay (12 lb. daily—medium quality) ration (after adjusting for the amount of supplemental alfalfa pellets). Grain (20% protein) was fed according to production after correcting for the amount of corn in corn silage, but no attempt was made to adjust for the slight protein differences in rations. Thus, cows were fed on the high side of protein requirements according to most feeding standard recommendations. Nevertheless, feeding of pellets in this type of ration definitely increased milk production mostly as a result of increased persistency. The average change in bodyweight also increased as level of pellets increased.

(7) Porter and Skaggs, New Mexico—In many irrigated areas of the U.S. it is not at all unusual to gather five to six cuttings of alfalfa hay, but most farmers and ranchers consider that the usually rank nature of the second and third cuttings results in poorer feeding value than for the shorter finer stemmed earlier and later cuttings. Climatic conditions in these areas also permit harvest with good color and little leaf loss unless the forage is allowed to become too dry. Three years' trials by the New Mexico workers showed little significant differences in actual chemical composition of first, second and fifth cuttings. Also, little differences were observed with respect to palatability of hays in most cases or in amount of hay consumed when fed to milking cows as the only roughage. Furthermore, the results indicated that the true feeding value of ranker cutting as measured by milk production may be as high as that of the leafier cuttings, provided that the hay is harvested at the early-bloom stage.

(8) Leighton and Helm, Texas—Digestibility estimates, based on total collections, were made on three stages of maturity for Tracy sorghum silage (milk, soft dough, and hard dough) and on Hy Hegari silage at two stages of maturity (bloom and hard seed). The respective T.D.N.'s for Tracy silage were: 16.2, 17.5, and 14.1, while those for Hy Hegari silage were: 7.0 and 12.2. No digestible protein was found in the Hy Hegari silage. The data indicated considerable difference in the feeding value potentials for the two types of silage, but because the two varieties were grown on different soils and ensiled under different conditions, the results may not reflect actual differences. When the two stages of Hy Hegari silage were fed to milking cows, the mature stage produced a significantly less amount of milk.

(9) Pratt, Davis and Conrad, Ohio—These workers have shown that it did not pay to go to the trouble of cutting soilage (green-chop) twice-a-day. Milk production was the same when three, six-cow groups were fed twice daily freshly cut soilage of alfalfa-grass mixture when compared with three other equal groups which were fed twice daily with soilage cut once daily.

(10) Voelker and Bartle, South Dakota—Four feeding trials with individually fed milking cows and two heifer trials were conducted by these dairymen to compare the feeding value of alfalfa haylage (40-50% moisture) with other methods of storage (green-chop, pasture, alfalfa silage, and artificially-dried alfalfa hay). The alfalfa haylage was cut in the bud-stage and no significant differences in milk production were noted in the trials. Cows on haylage consumed the most dry matter and they gained the most weight when fed 1 lb. concentrates for each 3 lb. 4% F.C.M. Milk return per acre of forage was greatest for the haylage because of low losses in preservation (approximately 4%). In two trials, 76 heifers gained significantly more weight (with grain, approximately 0.3 lb. more; without grain, approximately 0.4 lb. more) when fed haylage than when fed green-chop. Oat haylage was estimated to contain slightly more estimated net energy than alfalfa haylage when fed to milking

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cows in trial 4. A further advantage of haylage was the fact that considerably less labor was used than when green chop was fed. Also, roughage intake was more uniform on haylage.

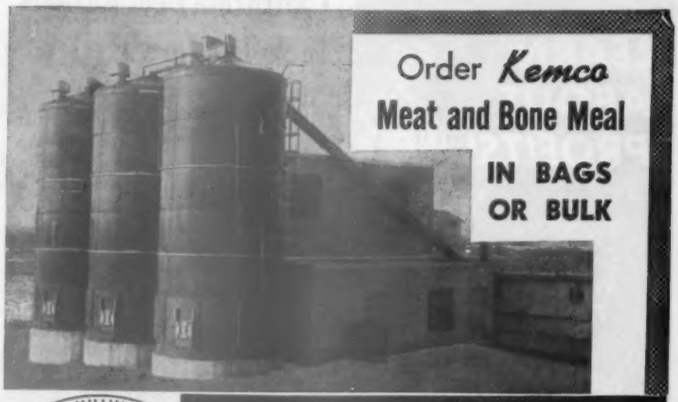
(11) Swanson, Tennessee—Further evidence of the soundness of calving heifers at two years of age vs. calving at three years of age is given in the report by this researcher using identical twins. Production of cows that calved at 2 years and those that began calving at 3 years of age is about equal at the mid-point of the 5-year lactation. Furthermore, the early calvers had produced more milk up to this point because of the extra lactation during the third year of life while the late calvers were not producing.

(12) Johnston et al., Louisiana—Relatively few studies have been conducted on the benefit of air-conditioned buildings for cattle vs. sheds in warmer climates under practical conditions. An air-conditioned (62 to 72° F.) building was compared with an aluminum open shed (70 to 97° F.) for the period of July 15 to September 21, 1959 for milking Holstein cows. No benefits were secured from the air-conditioning with respect to milk production, day to night ratio of forage intake, or apparent digestibility of dry matter. It was theorized that the fact that the animals had acclimatized to hot conditions prior to the initiation of the experiment may have accounted for the lack of benefit from air conditioning. Work reported by other workers previously and also at the meeting by the Missouri workers (Davis and Merilan; Johnson et al.) has shown that constant temperatures over 90° F. combined with relative humidities of much over 40% are very depressing on feed consumption, and milk production.

(13) Stott and Moody, Arizona—Arizona workers have reported previously that low fiber highly digestible rations were superior during hot weather for milking cows. Further evidence of this was the report with 24 cows divided into two equal groups, one of which received 2.5 lb of alfalfa hay for each 100 lb. of bodyweight, while the other was fed only 1 lb. of hay for each 100 lb. of bodyweight. Concentrates were fed at a rate to make up the difference in energy and protein needed for production and maintenance. The low-roughage ration produced 1.18 lb. more 4% F.C.M. per cow per day. But, the fat test of milk was depressed 0.31% by feeding the low roughage ration. Whether or not it will pay to use such rations for short periods while weather is extremely hot will depend entirely on the relative price for milk and the premium for fat differential.

(14) Campbell and Merilan, Missouri—More frequent feeding of farm animals has become a subject of experiment station research as farmers have resorted to more automation. For example, Illinois workers (1960) have reported that steers hand-fed six times daily ate more feed than those hand-fed twice daily, made a higher daily gain, and were more efficient in feed conversion. Compared with self-fed steers, the Illinois workers observed that gains were not any better, but that feed efficiency was quite a bit improved. When Ohio workers restricted the feed consumption to equal amounts, no benefit was secured when Hereford heifers were fed three times daily as compared to those fed only once daily.

The Missouri workers reported on their work with feeding dairy cattle two, four or seven times daily. Each cow was fed 4 lb. of dried beet pulp and 16 lb. of good-quality alfalfa hay daily. Concentrate was fed according to milk production and the balance of the daily nutrients was met by feeding alfalfa pellets. Each trial consisted of a two-week preliminary period followed by a four week experimental period following a 3x3 Latin Square design. Preliminary results indicated that when the switch was made from the previous **ad lib** method of feeding to two times daily, the average milk production decreased slightly (3.9 lb.) but no difference was noted in those groups fed either 4 or 7 times daily. Likewise, butterfat test decreased in the two times daily fed group when the switch was made from **ad lib** feeding. Dairy cows fed either four or seven times daily produced approximately 14% more milk than those fed twice daily. In addition, the cows fed more frequently produced more efficiently. Those fed four times daily produced 0.95 lb. of milk per pound of feed as compared to 0.89 lb. for those fed twice daily. Considering all factors, such as production, feed efficiency, weight gains, etc., it was estimated that feeding four or more times daily increased gross income from milk about 10% in this test—quite a saving! Further research is being planned to determine the optimum frequency of feeding.



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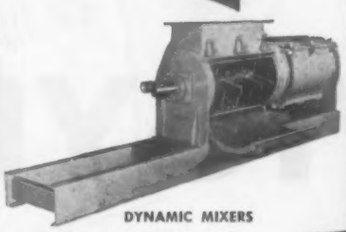
Kem Milling Co.

NEW BRIGHTON, MINN. • MELROSE 3-4411

DUPLEX MIXERS

. . . feature exclusive double-whip beater action from patented loop-type paddles. For wet or dry ingredients.



DYNAMIC MIXERS

. . . provide high-speed agitation for mixing liquids and feeds. Rugged, heavy-duty construction.

HORIZONTAL BATCH MIXERS

Most highest capacity output and outstanding operation . . . at lowest cost per ton? This combination of the Eureka Standard Heavy-Duty Horizontal Mixer with Surge Bin is unequalled.

EUREKA

. . . puts more SENSE in your equipment DOLLAR . . . with

JOB-MATED MIXERS

THE EUREKA NAME appears on the world's largest line of equipment designed especially for the grain and feed industry. Ask about Eureka equipment for your other operations.

WHATEVER YOUR MIXING REQUIREMENTS . . . there's a EUREKA model to do the job better, faster, more economically. From light-dry to heavy-dense materials, you'll get accurate, uniform blending . . . plus years of dependable, trouble-free service.

ONLY EUREKA offers this wide range of types, sizes and capacities in standard models. Or mixers can be custom-built to your own specifications.

Eureka equipment is manufactured to the highest standards of craftsmanship and quality. Each unit is carefully tested by actual operation in the plant before it is approved for shipment to a customer.

VERTICAL MIXERS

. . . offer wide flexibility. Capacities from ½ to 4 tons or more per batch.

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I'd like complete information and prices on the items checked.

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Company _____

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MOST PRACTICAL DESIGN

B&L Mobiles have been designed to provide maximum efficiency in a powerful "tool" for merchandising concentrates and complete mixed feeds.

ONE-MAN OPERATION

Ease of handling plus an enclosed feed transport compartment eliminates need for a helper, even at a very profitable rate of production.

EXCLUSIVE MIX-A-METER

This calibrated indicator measures feed ingredients and shows operator and customer that feed is being correctly formulated.

BALED HAY FEEDER

The baled feed table handles whole bales (square or round) at rates of up to 200 per hour.

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ONE MAN -- ONE POWER UNIT GAS or DIESEL*

*Optional equipment includes corn sheller and air unloader.

BARNARD & LEAS Manufacturing Company INC.

1219 Twelfth Street S.W. Cedar Rapids, Iowa

California Beef Rations Include More Barley

By Special Correspondent

MADERA, CAL.—The use of barley for feeding beef cattle is increasing throughout California, according to G. Edward Jacoby, production engineer for the Madera Milling Co. There are two reasons for this: Steers make faster gains, and there is a growing price spread between barley and alfalfa hay.

"Land is getting too expensive to grow hay," said Mr. Jacoby, "so many farmers in the Central Valley are putting this land in cotton and grapes. Also the big dairies are turning to a corral-type operation, where cows are kept in the lot altogether.

"Since more hay is needed for this method of dairying, the owners have been demanding more hay and paying higher prices for it. Thus, the feedlot operator started finding that barley was cheaper than hay, which has accelerated the trend toward higher concentrate rations."

Recently, the Madera Milling Co. was buying barley at $2.17 per cwt. or $43.30 per ton delivered at the mill. Good alfalfa hay costs about $25 per ton delivered.

"Also there is a difference in handling," said Mr. Jacoby. "To put hay through our mill requires a lot more manhours and equipment, whereas barley is easily handled.

"If the price ratio changed and we could buy hay for $20 per ton, as it has been in the past, and barley cost $60 a ton, then most feeders would be using more hay. So despite the popular belief that barley is superior to alfalfa hay in feeding beef cattle, the price of the two feeds in various areas will be a determining factor."

Felco Changes Corporate Setup

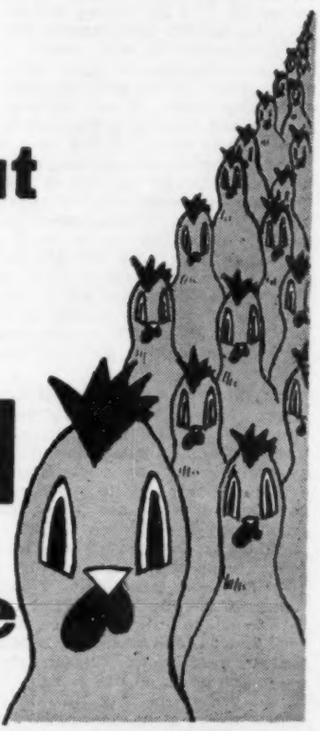
FT. DODGE, IOWA—Morel Stientjes, general manager of Felco, announces the change of the corporate set-up, representing over 350 cooperatives in Iowa and Minnesota, to the Farmers' Elevator Service Co., Inc. The new corporation will take over the assets and liabilities of the old company on Oct. 1, Mr. Stientjes said.

The original company, Farmers' Elevator Co., was organized in 1925, under Iowa corporation laws on cooperatives. The new company will take advantage of later legislation. The new company will have the added responsibility of organizing and promoting cooperative business ventures in areas which do not now have cooperative businesses.

Board members of the new company will be unchanged.

coccidiosis had us down - but

Whitmoyer WHITSYN came to the rescue



STOPS COCCIDIOSIS without harmful side reactions

That's because WHITSYN's exclusive formulation achieves its safe effectiveness through its synergistic* and multiple biochemical action—not through sheer drug concentration.

There's also an important bonus benefit—WHITSYN's exclusive mode of anti-coccidial activity minimizes lesion damage. This is a vital factor in the future well-being and profitableness of the birds since serious lesion damage can delay the onset of egg production, depress egg production, retard weight gains and cause prolonged unthriftiness.

The WHITSYN "family of coccidiosis control products" meets every need

WHITSYN-S—a liquid product for use in the drinking water.

WHITSYN-5—a dry product for use in the mash.

WHITSYN-10—a coccidiosis preventive that does not "overprotect." WHITSYN-10 is ideal for replacement stock where development of immunity is so essential.

If you are not already offering profitable WHITSYN to your customers, contact us for complete information.

*Scientific journals have reported confirmation of Whitmoyer findings by independent workers. Data available upon request.

and it's your lowest cost modern coccidiosis treatment, too

For more information, write Dept FS-7

Whitmoyer LABORATORIES, INC.

MYERSTOWN, PENNA., U.S.A.

. . . from Whitmoyer research on protozoan diseases

• CARB-O-SEP • WHITSYN • HISTOCARB

WAREHOUSE STOCKS AVAILABLE AT THESE AND OTHER CONVENIENT U.S. AND FOREIGN LOCATIONS:

Worcester, Mass. Gainesville, Ga. Albertville, Ala. Jackson, Miss. Rogers, Ark. Indianapolis, Ind.
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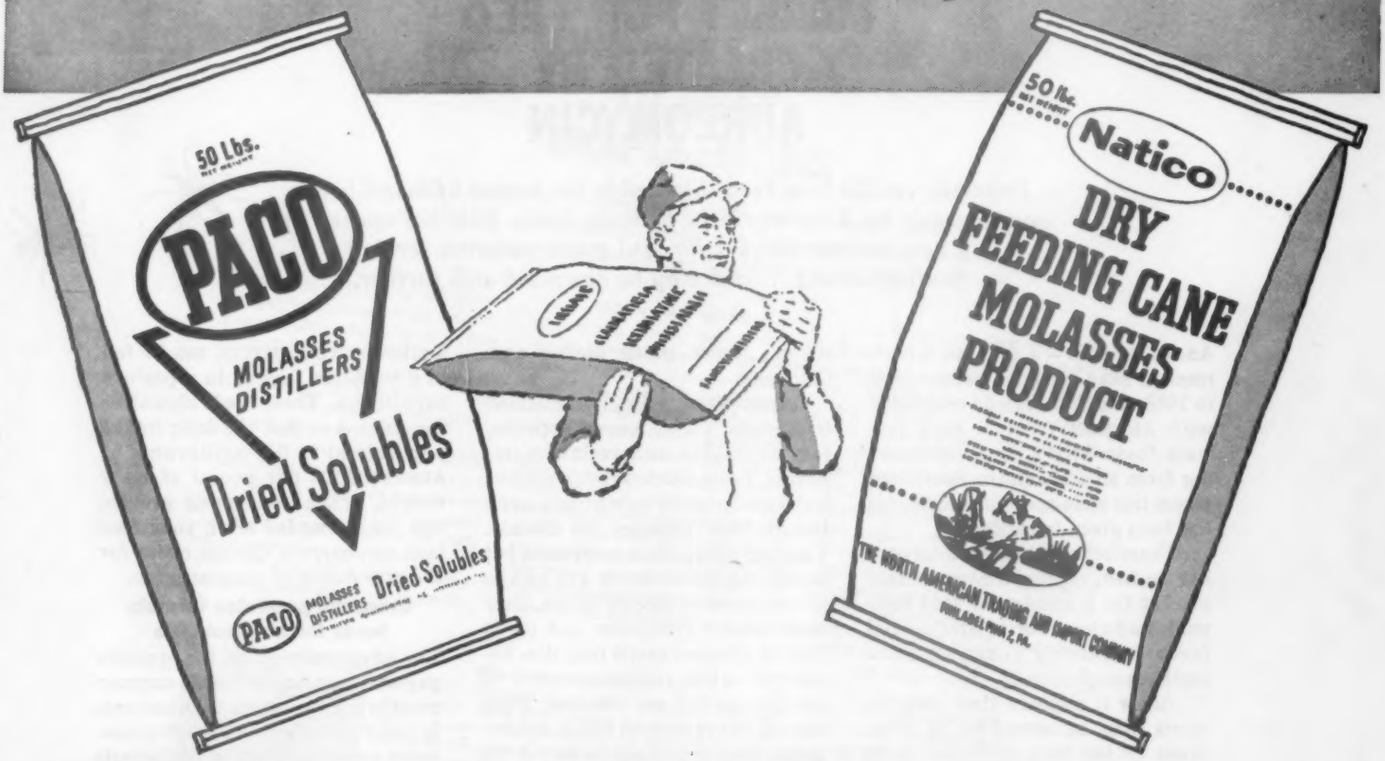
In Canada: Whitmoyer Laboratories, Ltd., Port Credit (Toronto Twp.), Ontario

We'll *PROVE* that PACO and NATICO are the finest 100% Dry Molasses Products on the market today!



PACO is the superior Molasses Distillers Dried Solubles — nutritionally sound, palatable to stock and just about the *best pellet binder* you can buy! Paco is the ideal fortifier to add to your feed formula, provides balanced protein, B-vitamins, essential minerals plus unidentified growth factors. Compare 'em all—you'll choose Paco!

NATICO is the richest dry molasses product available! Add it to your feed for more profitable production and more *economical feeding costs.* Natico is an all sugar cane molasses product, adds attractive new color and fragrance to feeds . . . even makes dry home-grown grains and roughages tastier to livestock. Try Natico and watch feeding costs go down!

PRODUCTS OF **PUBLICKER INDUSTRIES INC.,** 1429 WALNUT STREET, PHILADELPHIA 2, PA. • PHONE: LOCUST 4-1400

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Let us prove Publicker's superiority in farm feeding products. Fill in coupon and attach to your company letterhead. We'll send you free samples of Paco and/or Natico . . . America's finest products for farm feeding!

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☐ send Paco sample
- ☐ 2-oz.
- ☐ 2-lb.
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- ☐ 50-lb.

☐ send Natico sample
- ☐ 2-oz.
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- ☐ 10-lb.
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A NEW SUMMER MARKET FOR FEED CREATED BY AUREOMYCIN

Dramatic results have been obtained in the control of insect-borne anaplasmosis by Aureomycin in formula feeds. This has opened up a new summer market for feed manufacturers serving Southern areas . . . and may be expanded still further.

Anaplasmosis – a disease which reached near-epidemic proportions in 1958 and 1959–*can be controlled with AUREOMYCIN® in good formula feeds.* That's the report coming from all areas in the Southland where this wide-spectrum antibiotic has been given to cattle.

The effectiveness of AUREOMYCIN has, in fact, *created* a new summer market for a number of feed companies who have formulated special feeds containing AUREOMYCIN to combat anaplasmosis.

Since it appears that anaplasmosis may be spreading to other areas (it has been diagnosed in 32 states), more feed companies may seek the opportunity of opening up a new market by serving their customers with similar feeds.

What is anaplasmosis?

Anaplasmosis is a disease caused by microscopic parasites that live in red blood cells. It is spread by ticks, mosquitoes and horse flies which bite infected animals and carry the disease to healthy animals. It also can be spread by non-sterilized vaccinating needles and dehorning instruments. Anaplasmosis occurs in late summer and fall and may be found almost anywhere cattle are raised. It is most prevalent in warmer areas: in the Gulf coast states, lower plain states and California.

Anaplasmosis is characterized by anemia, fever, loss of appetite, loss of weight and yellow membranes. Young calves are susceptible, but rarely show symptoms even though they undergo the disease. Yearling cattle show symptoms but rarely die. After cattle are two to three years of age or older, they show severe symptoms and up to 50% of affected cattle may die. Recovered cattle remain carriers of the disease but are immune. Even though the recovered cattle are immune, they should not be left in the herd but should be disposed of – as they may be a hazard to the remaining susceptible cattle.

How to control anaplasmosis

Diagnosis and treatment of anaplasmosis should be left up to a veterinarian. If anaplasmosis is suspected, a veterinarian should be called promptly since it is essential to apply treatment early in the course of the disease.

The *one* best way to control anaplasmosis is to *prevent* it by (1) insect control, and (2) use of good formula feeds containing AUREOMYCIN. Insect control can be achieved by spraying or dipping cattle at frequent intervals with insecticides. AUREOMYCIN can be fed in a complete feed or in a pasture supplement. These feeds should be formulated so that the daily intake per animal is 0.5 milligrams of AUREOMYCIN per pound of body weight. When your feeds provide this recommended level, your feed tags can carry a disease claim for the prevention of anaplasmosis.

Cyanamid promotes formula feeds for anaplasmosis

The advertisement on the opposite page will appear during the summer months in areas where anaplasmosis is most prevalent. This advertisement promotes the use of formula feeds containing AUREOMYCIN–and describes an experiment conducted at the University of Oklahoma in which the effectiveness of AUREOMYCIN was convincingly shown.

Feed manufacturers who may be interested in providing formula feeds for the control of anaplasmosis are invited to get in touch with their Cyanamid Representative who will be glad to furnish additional information. American Cyanamid Company, Agricultural Division, New York 20, N. Y.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

THERE'S ONLY ONE BEST WAY TO BEAT ANAPLASMOSIS

And that's by preventing it with good formula feeds containing Aureomycin. Many southern cattlemen have done just that, and saved thousands of dollars.

Nothing has proved as effective against anaplasmosis as AUREOMYCIN®! This was proved in two successive years, 1958 and 1959, when AUREOMYCIN gave exceptionally fine results in preventing and controlling this costly, insect-borne disease in many southern areas.

Says one report: "Around 15,000 head of cattle were fed AUREOMYCIN in Louisiana, Arkansas and Mississippi in 1958 *and less than 1% were affected with anaplasmosis.*" In 1959, many more thousands of cattle were given AUREOMYCIN in the anaplasmosis season with equally good results.

This is the program

How do you prevent losses? This is the program followed by your neighboring ranchers: Provide good formula feeds containing AUREOMYCIN just prior to and throughout the period when protection is necessary.

Aureomycin proved effective

The exceptional effectiveness of AUREOMYCIN in controlling anaplasmosis was shown in a trial conducted at the Oklahoma Agricultural Experiment Station in cooperation with the School of Veterinary Medicine. Fifteen yearling steers were inoculated with anaplasmosis-infected blood. They were then divided into 3 groups of 5 each and placed in special pens for observation.

Starting one week after the inoculation and continuing for 60 days, one of these groups (known as the "control" group) was fed a concentrate *without* AUREOMYCIN plus free choice of prairie hay. The other two groups received the same ration *with* the addition of AUREOMYCIN to the concentrate at the levels shown in the table. Note in the chart below that *none of the steers fed AUREOMYCIN became infected with anaplasmosis, while all of the animals not receiving AUREOMYCIN did.*

Following the 60-day feeding period, the animals were removed from the pens and placed on pasture for an additional 60 days.

At the end of the trial, 120 days after the experiment began and 60 days after the feeding of AUREOMYCIN was discontinued, blood samples were taken from the 10 steers fed AUREOMYCIN, and injected into 10 anaplasmosis-susceptible calves. *None of the 10 anaplasmosis-susceptible calves was infected by the blood of the 10 steers fed AUREOMYCIN.*

What one rancher reports

Says Mr. George Shepherd, manager ,Milliken Plantation, Lake Providence, La.: "Prior to the introduction of feeds containing AUREOMYCIN for our 1300-head herd of Aberdeen Angus cattle, our death losses from anaplasmosis ran about 2%. In addition to the deaths caused by anaplasmosis, approximately 3% of our brood cows aborted as a result of the sickness. In dollars and cents this would run about $400 to $500 per 100 head of cattle. AUREOMYCIN, I am convinced, is responsible for cutting these losses practically to zero."

Feeding AUREOMYCIN for control of anaplasmosis (120-day trial in Oklahoma)

	without AUREOMYCIN	with AUREOMYCIN	
	Control Group 1	Treated Group 2 1 mg. per lb. body wt. daily	Treated Group 3 0.5 mg. per lb. body wt. daily
Number animals	5	5	5
Number inoculated with anaplasmosis carrier blood	5	5	5
Number becoming infected with anaplasmosis	5	0	0

Talk to your feed manufacturer

Many feed companies make special feeds containing AUREOMYCIN for control of anaplasmosis. Get in touch with *your* feed manufacturer or feed dealer. American Cyanamid Company, Agricultural Division, New York 20, N. Y. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

Cattlemen throughout Southern areas will read this advertisement on formula feeds for the control of anaplasmosis. It will appear in Gulf Coast Cattleman and Florida Cattleman in June and August.

POULTRY SCHOOL—Dr. John M. Snyder, director of poultry research for Beacon Milling Co., and Robert E. Miller, director of marketing, review with three graduates material presented at Beacon's recent poultry sales-service school. The graduates are Robert M. Brewington (center), Russell Hilton and Herbert Savage (extreme right).

★ Buy and Sell Through WANT ADS ★

Beacon Holds Poultry Sales Service School

CAYUGA, N.Y.—A training course in the sale and servicing of poultry rations was completed by 17 "advisors" of Beacon Milling Co., Cayuga, a division of Spencer Kellogg & Sons, Inc.

The school is one of two held annually by Beacon. The second one is held in the fall and is devoted to sales and service programs for livestock rations.

Dr. John M. Snyder, director of poultry research for Beacon, supervised instruction and activities during the first four days of the school. A broad range of topics under the general headings of nutrition feeding programs, poultry flock management, disease prevention and control, housing, and egg and poultry marketing were discussed.

The final day of the school was devoted to specific sales and promotional training under the leadership of Beacon's director of marketing, Robert E. Miller.

Advisors attending included Sylvanus (Buddy) Baker, Millsboro, Del.; Robert M. Brewington, Orangeville, Pa;. Denward W. Campbell, Delmar, Del.; James M. Collins, Johnstown, N.Y.; Charles A. Freligh, Seneca Falls, N.Y.; Norman C. Grose, Laceyville, Pa.; Russell D. Hilton, Waldoboro, Maine; John N. Howland, Newark Valley, N.Y.; Earl C. Johnson, Oneonta, N.Y.; Henry L. Marks, Harrisonburg, Va.; James A. Mitchell, North Vassalboro, Maine; Herbert Needleman, Cambridge, N.Y.; Lyle M. Prine, Poplar Ridge, N.Y.; Mark E. Reid, Broadway, Va.; Herbert M. Savage, Modest Town, Va.; Arthur J. Stangle, Candor, N.Y.; and Leonard Defendorf, Waldoboro, Maine.

South Carolina Works To Boost Small Grain

CLEMSON, S.C.—George B. Nutt, Clemson College extension director, says agricultural leaders are taking a "critical" look at the Palmetto State's small-grain crop.

Although South Carolina leads the Southeast in grain production (taking second place only to Pennsylvania in all states east of the Mississippi), they are convinced that production falls short of potential.

According to Mr. Nutt, here is the reasoning of the agricultural group: Oats, the state's chief small grain crop, has an average yield of about 30 bu. per acre, and this is considered too low.

Director Nutt has called for a self-appraisal of extension's small grain program. The production recommendations themselves are not expected to change materially, but an all-out push to acquire wider grower acceptance is expected this fall.

He said the machinery for the all-out effort has already been set in motion.

Mr. Nutt went on to say that the emphasis on better grain production fits well in the pattern of the post-war farm picture. The crop is "tailored" for mechanization.

According to Mr. Nutt, South Carolina's small-grain acreage is about 1 million acres. Oats, occupying the largest portions, is followed by wheat, barley, and rye. Close to 700,000 acres are harvested as grain.

County agents are expected to call for the cooperation of all other agricultural agencies in putting the program across. They will also ask for the cooperation of all communication media including newspaper, radio and TV in getting the program to farmers.

Takes Nutrena Post

KANSAS CITY—Kent A. Smith, 1960 graduate of Kansas State University's school of agriculture, has been named to Nutrena Feeds sales staff here, according to R. E. Whitworth, Jr., southwestern regional sales manager.

Mr. Smith will headquarter in Kansas City and will service Nutrena livestock and poultry production systems to farmers in surrounding areas of Missouri and Kansas.

"Shells Out"
GREATER PROFITS
thru SUPER-PERFORMANCE

800 to 1600 Bu per HOUR
machine picked corn

Bryant CORN SHELLERS
LAST LONGER . . . COST LESS TO OPERATE

Bryant Corn Shellers give you Fast . . . Efficient . . . Low Cost Shelling . . . FAST is the word for it . . . 800 to 1600 bu. of shelled corn per hour of machine picked corn with the Bryant No. 40 Sheller. This simple one-motor machine shells machine picked or snapped corn with shucks, cleans the shelled corn and blows cobs and dirt up to 300 feet. The Bryant Corn Sheller's rugged construction and compact design plus low maintenance, make it an outstanding machinery buy.

BRYANT CORN SHELLERS ARE MADE IN FIVE SIZES WITH CAPACITIES RANGING FROM 200 TO 1600 BU. PER HR.

A SIZE FOR EVERY NEED!

Bryant Coarse Crusher can be mounted on sheller hopper and driven by separate motor or from sheller shaft. Extra long shaft is not required.

Bryant No. 30 Coarse Crusher will give you a 15% to 25% Capacity Increase on your Corn Sheller!

The Bryant Coarse Crusher, made in three sizes, 22", 30", and 36" to meet all requirements, and used ahead of your sheller to protect sheller from tramp iron, stones and other foreign material, will also increase the capacity of your sheller. Breaks up the ears for faster, smoother shelling. Three sizes handle from 1,000 to 2,000 bu per hour.

Bryant ENGINEERING COMPANY
1504 TENTH AVENUE PORT HURON, MICHIGAN

Quality OUR MOST IMPORTANT PRODUCT FOR 49 YEARS.

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GROUND OAT GROATS
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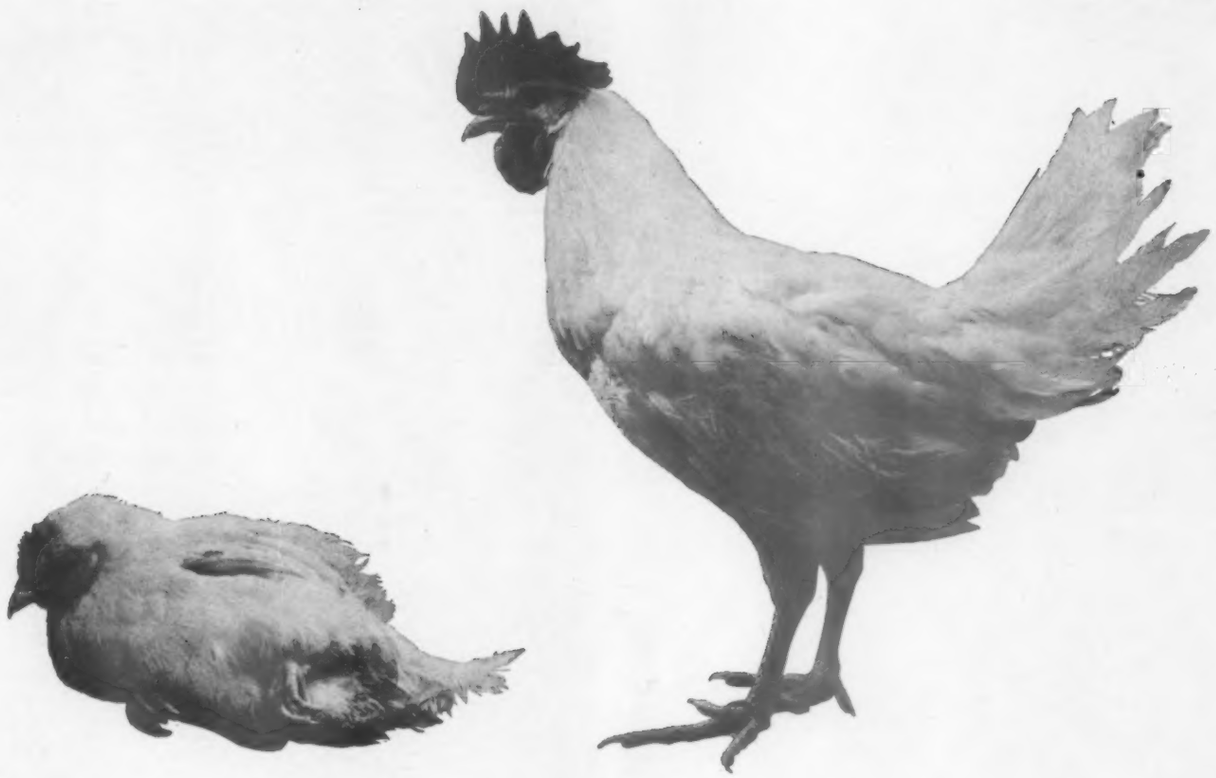
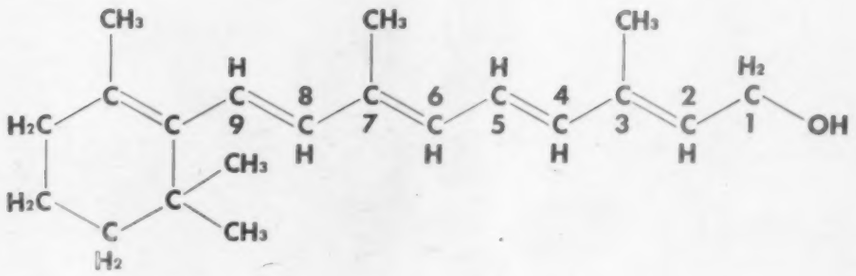


Vitamin A should zigzag properly...



This is the all-*trans* isomer used in *PGB-250 Dry Vitamin A*. Any difference in this configuration would affect the potency of the vitamin A. The following table bears this out.

Stereoisomeric Form	Relative Biological Potency Vitamin A
all-*trans*	100%
2-mono-cis (neo)	75%
6-mono-cis	23%
2,6-di-cis	23%

If this sounds complicated, it is. And the procedures for making bioassays are even more so. Which may help explain some of the confusion that exists about whose vitamin A has the most dependable *biological* potency . . . something quite different from *chemical* potency. And infinitely more important to the birds that will ingest it.

Mixtures of vitamin A isomers have less biological potency per unit of chemical potency than all-*trans*-vitamin A. And unstable forms can be destroyed *before* feeding if they are mixed in the diet. Losses due to instability may be misinterpreted to mean poor availability. Finally, the coating material can affect availability.

Because of these variables, DPi has used the all-*trans*-vitamin A as a standard in measuring the biological availability of *PGB-250 Dry Vitamin A*.

When compared with the stable Vitamin A Reference Standard recently proposed by the Animal Nutrition Research Council, *PGB-250 Dry Vitamin A* has been proved stable and fully available biologically.

We'll be glad to send you a booklet which elaborates on these tests and on the other factors which make *PGB-250 Dry Vitamin A* your best possible value. Write for it. ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto.

leaders in research and production of vitamins A and E

DPi

Also...distilled monoglycerides... some 3800 Eastman Organic Chemicals for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

Plans for Nutrition School for Feed Men At Wisconsin Given

MADISON, WIS.—Feed men from all over the Midwest are expected to attend the 11th nutrition school for feed men Aug. 9-10 at the University of Wisconsin, Madison. The school is sponsored jointly by the university and the Central Retail Feed Assn.

Meetings will be held both days and will include sectional sessions at the close of each day's program. These will include separate meetings on swine, beef, sheep, poultry and dairy feeding problems.

In addition to speakers from the university staff, the following authorities are on the program:

Dr. E. J. Underwood, University of Western Australia, Nedlands, W.A., who will discuss minerals in nutrition. Dr. Underwood is recognized for his work on minerals.

Dr. W. W. Cravens, chairman of the nutrition council of the American Feed Manufacturers Assn. and director of research for Central Soya Co., Inc., Fort Wayne, Ind. He will discuss current feed industry problems.

Dr. John Matsushima, University of Nebraska, Lincoln, Neb., who is a leading authority on beef cattle feeding and will cover that subject.

Dr. Wilbor O. Wilson, University of California, Berkeley, Cal., whose topic covers the factors of environment in poultry production.

Dr. E. W. Crampton, Macdonald College of McGill University, Quebec, Canada, who is a leader in the determination of evaluation of forage crops.

Speakers from the university include:

Dr. W. H. Ebling, who will talk on crops, feed and livestock;

Dr. R. W. Bray, talking on "Feeding for Carcass Quality;"

Dr W. G. Hoekstra, speaking on "Current Views of Amino Acids in Swine Nutrition;"

Dr. G. Bohstedt, talking on "Protein Supplements for Livestock Rations;"

Dr. E. L. Corley, speaking on "The Influence of Environment on Production in Dairy Cattle;"

Dr. H. R. Bird, discussing "Specifications for Poultry Feeds;"

Dr. Wayne Burch on "Preventing Antibiotic Contamination of Dairy Products," and

Dr. E. H. Fisher on "Preventing Pesticide Contamination of Dairy Products."

A banquet will be held at 6 p.m. Aug. 9 with an illustrated talk on Russia by Dr. E. E. Heizer of the university.

Registration fee for the school is $13 which includes two luncheons, the banquet and one breakfast. Rooms are available at slight extra cost in the university dormitories. Dr. Robert Grummer, head of the department of animal husbandry at the university, is general chairman of the school.

Shelley says

Play it cool this summer. With laying feed sales becoming less and less seasonal, keep plenty of Shellbuilder on hand to meet the growing summer demand.

SHELLBUILDER COMPANY • 1305 PRAIRIE AVE. • HOUSTON, TEXAS / *Pure crushed reef oyster shell*

Armand J. Gariepy

Sales Expert to Talk To Ingredients Group

DES MOINES—Armand J. Gariepy, director of Sales Training International, Barre, Mass., will be one of the featured speakers at the annual convention of the National Feed Ingredients Assn. Sept 14-16 at Brown's Lake in Burlington, Wis.

Mr. Gariepy has had 35 years experience as a salesman and sales manager, instructor in sales management and professional motivator of sales activity and is widely known as a sales expert and public speaker.

He travels more than 50,000 miles a year in conducting his programs. He has traveled around the world twice and is the author of a book, "Your Future Is in Your Hands."

A special program for the ladies, plus facilities for golf, swimming, tennis, boating, fishing and other activities have been planned for the meeting.

60,000-Bird Farm Opens in California

MADERA, CAL.—One of the largest poultry farms in this area was developed recently a few miles southeast of Madera. The B & C Farms built four laying houses 38 ft. by 600 ft., with each one holding 12,000 caged hens. Another house will be completed soon, which will give the company 60,000 birds in production.

The company was formed by Britt Cooper and Associates. One of the partners is Gene Landucci who is also the resident manager.

The eggs are cleaned, graded and placed in cartons holding one dozen each. The owners have a 10-year contract with the Purity Stores of California, which sends out a truck twice a week to pick up the eggs.

In planning to offset the summer heat, the owners built the houses so that a large part of the south and north walls of the metal buildings could be left open. They also placed inside fogging machines in the buildings, and are completing an outside fogging system to lower roof temperatures.

"We still need some work on the place," said Mr. Landucci. "These were started pullets, but we'll soon have a growing house so we can buy the birds at baby chick size.

"Another part of our expansion will be in manufacturing our own feed. At present we are buying bulk feed from a mill in Madera, but hope to have our own mill by next year."

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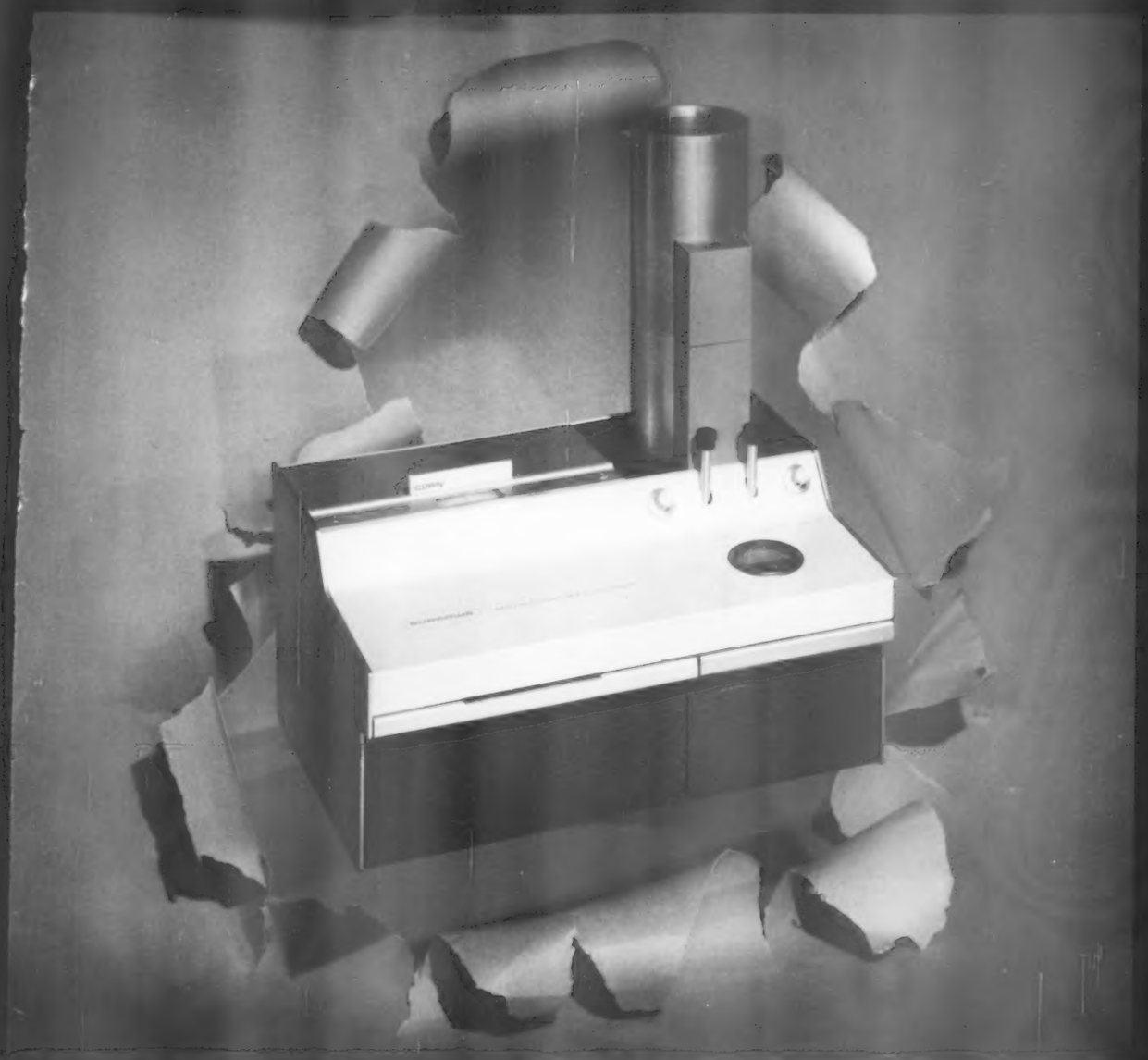


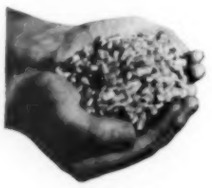
A Major Breakthrough in Moisture Testing

The new Burrows Moisture Recorder represents a major breakthrough in the moisture testing of all grains. Recent discoveries in electronics are utilized to assure the accuracy of the instrument. Tests for each type of grain are specially programmed by a printed circuit card which is inserted into the Recorder. A small electronic sensing device (a thermistor) located in the test cell takes the temperature of the grain automatically and relays it to the electronic brain. A new scientifically designed test cell corrects for variations in weight per bushel. All factors are fed into the electronic circuit and computed by the instrument. A motorized drum revolves and comes to a stop at the correct moisture percentage which may be read visually on a lighted dial. A major feature of the Burrows Moisture Recorder is a special electronic printing device which permits permanent recording of the moisture percentage reading on a scale ticket or other slip of paper.

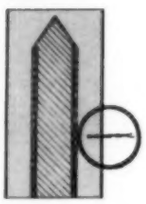
BURROWS MOISTURE RECORDER

Electronically Computes and Records Moisture Content

Large 250 Gram Sample— *is used on all grains. This, plus new round test cell with special center core construction assures greater accuracy and eliminates weight per bushel adjustments.*

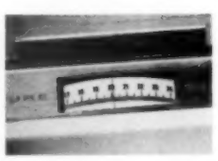


Automatic Temperature Correction— *Built into the test cell is an electronic sensing device (a thermistor) which automatically computes the temperature of the sample as it is being tested. No separate temperature reading is required.*



Special Printed Circuit Cards Program Each Computation *— A printed circuit on a card is inserted in the Recorder — a separate card being furnished for each type of grain being tested. No charts are required.*

Direct Moisture Percentage Reading *— A motorized drum revolves automatically and comes to a stop giving a direct visual reading on a lighted dial. All readings are to .1 of one percent.*



Electronic Printing Device — *The moisture percentage reading can be automatically printed on a scale ticket or slip of paper. Simply insert in slot on the front of the Recorder.*

BURROWS MOISTURE RECORDER

SIMPLE . . . AUTOMATIC OPERATION

Weigh out a 250 gram sample and drop it into the instrument. Within *5 seconds* the illuminated dial shows a direct moisture percentage reading. The insertion of a scale ticket or slip of paper in a slot in the front of the Recorder gives you a permanent written record—including carbons—of the moisture percentage.

AUTOMATIC TEMPERATURE CORRECTION

No longer is it necessary to make a separate temperature test and add or subtract to the reading — this is done instantly and automatically by the instrument.

NO CHARTS . . . NO WEIGHT PER BUSHEL CORRECTION

It is no longer necessary to translate meter readings into moisture percentages by means of charts. The Burrows Moisture Recorder eliminates all of these steps and so eliminates the chance for costly human errors, giving you much greater accuracy than heretofore available in any moisture tester.

WHY YOU GET A MORE ACCURATE TEST

The Moisture Recorder operates on the proven principle of dielectric measurement using new high frequency radio waves to penetrate the grain sample. A new balanced electronic circuit operating like a mechanical scale assures absolute accuracy. Power supply voltages can vary, tubes can change due to aging and environment, yet the complete accuracy of the moisture tester is maintained at all times. Actual laboratory tests of the Burrows Moisture Recorder after continuous use have shown no detectable error in calibration over that originally set at the factory. An electronically controlled servo motor automatically balances the circuit at all times providing an automatic reading of moisture content and an automatic self-checking each time the test cell is emptied. All calibrations have been determined in accordance with official U.S.D.A. oven standards. Range: 4 to 35 percent.

LIBERAL TRADE-IN ALLOWANCE

Tell us the make and age of your moisture tester. We will make you a liberal allowance.

FREE TRIAL

Let us ship you a Moisture Recorder. Try it out for 10 days. If you are not satisfied that it is the finest moisture tester on the market return it prepaid — no obligation to buy.

SPECIFICATIONS

Net weight 31 lbs. — Measurements 16" wide, 11" deep, by 8" high (18" to top of test cell). Rugged construction. New modern design.

GUARANTEE

The Burrows Moisture Recorder is fully guaranteed for one year.

PRICE . . . $545.00

Burrows Moisture Recorder complete with six printed circuit cards of your choice. Please specify cards to be included from the following list: *Corn, Soybeans, Oats, Grain Sorghums, Soft Red Winter Wheat, Hard Red Winter Wheat, Hard Red Spring Wheat, Durum Wheat, White Wheat, Western Barley, Eastern Barley, Flax, Rye, Rice.* Additional cards available for other grains upon application.

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orden's feed supplements division

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Get today's quotations on UGF sources – fish meal, dried whey, distiller's solubles. Take a sharp pencil. Then use the blank space provided above to figure how much you can save by adding FERMACTO 400 to your next ton of poultry feed.

Borden's exclusive blend of multiple fermentation factors, FERMACTO 400, is a highly concentrated and potent source of growth factors with built-in economics and performance. Using FERMACTO 400 is a matter of simple arithmetic and good nutrition.

Tests with layers show that the addition of only two pounds of FERMACTO 400 (total cost about 25¢) will permit you to replace ALL sources of UGF while actually increasing production and feed efficiency.

And with broilers, as little as 10 pounds of FERMACTO has successfully replaced as much as 150 pounds of other UGF materials – with superior results in weight gains and feed efficiency.

For further savings, Borden has developed complete supplements, containing all necessary micronutrients with FERMACTO 400 as a base, for specific feeds, such as Borden's 300 for layers and MG 2X AP for broilers and turkeys.

So figure the FERMACTO 400 economics above and then call on us for additional information about Fermacto's results in other rations, including hog and rabbit feeds. We welcome the opportunity to tell you about our complete custom-mix service to help you build better feeds – more economically.

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Better products through Borden research

Cattle, Swine and Lamb Studies Reported by Alberta Researchers

EDMONTON, ALBERTA—A host of experiments dealing with beef cattle, dairy cattle, swine and lambs were reported upon recently at the 39th annual Feeders Day held at the University of Alberta.

The beef cattle experiments dealt with protein supplement and hormone implants and feed consumption and conversion. Some of the swine tests involved effect of winter climate and shelter, restricted feeding, added fat, antibiotics and supplementation of wheat. The dairy experiments involved roughage pellets and feeding methods. One of the sheep experiments had to do with pelleted rations.

Summaries of some of the experiments reported upon during the day follow:

STEER FINISHING—PROTEIN SUPPLEMENT AND HORMONE IMPLANTS FOR YEARLING STEERS—This experiment was the third in a series of trials conducted to compare the performance of steers fed: (a) A basal ration of hay, grain and minerals containing approximately 10% protein, (b) this basal supplemented with 1 lb. of linseed oilcake meal daily per steer, and (c) rations as in (a) and (b) but the steers treated with hormone implants.

In each of the 1957-58 and 1958-59 experiments, only one group of implanted steers was included. This group was fed the basal ration and was implanted with Synovex-S. In the 1959-60 experiment, four lots of implanted steers were included to provide a comparison of Synovex with stilbestrol implants with steers fed hay, grain and minerals and this ration supplemented with protein.

A total of 60 steers were allotted to six test groups.

In this experiment, the steers in Lot 4, fed a hay-grain ration supplemented with 1 lb. linseed oilcake meal per steer daily to bring the ration to slightly over 11% protein, did not make any more rapid or efficient gains than those in Lot 1, fed the basal hay-grain ration containing 9.9% protein. In the comparable groups in both the preceding experiments, supplementation of a 10% protein basal ration with a pound of linseed oilcake meal resulted in considerable increase in rate of gain, reduction in feed required per unit gain, and increase in profit per animal.

However, even in the present experiment, researchers noted, on account of their smaller live weight shrink, higher dressing percentage and slightly better carcass grades, the steers in Lot 4 returned slightly more profit than those in Lot 1. The average profit for the three lots in this experiment fed the supplement was $1.39 per head greater than for the unsupplemented steers in Lots 1-3.

The response to Synovex implantation was not as marked in this as in two previous experiments, researchers noted. In the 1958 and 1959 tests, the steers implanted with Synovex made over 30% faster gains and required 20% less feed per unit gain than did their controls. The corresponding figures for the 1960 trial are: Lot 2 vs. Lot 1, 8% greater gain and 9% less feed; Lot 5 vs. Lot 4, 15% more gain and 8% less feed.

In this, the first experiment conducted here to compare Synovex and stilbestrol implants, the average results for the two lots treated with Stimplants showed that differences are small and indicate that the two types of hormone implant produced essentially the same results, researchers said.

The average profit per steer for the four implanted groups was twice that realized on the two groups that did not receive hormone treatment—$15.16 vs. $7.52.

VARIATIONS IN FEED CONSUMPTON, FEED CONVERSION AND GAIN IN INDIVDUALLY-FED BEEF CATTLE—The purpose of the present study was designed to look at the data available from the years 1956, 1957 and 1958 from three points of view: (1) To appraise the variation which exits between animals of the same breed and sex, fed within the same year on a standard ration; (2) to appraise the effect of an adjustment period following weaning on subsequent gain and efficiency of feed conversion, and (3) to compare weight-constant vs. time-constant methods of measuring performance in beef animals.

Calves were weighed at birth and again at 6 months when they were weaned. Calves were creep-fed rolled oats up to weaning.

At weaning, each animal was placed on a standard growing ration.

Good quality hay, containing about ⅓ alfalfa, was generally available and fed throughout the project. A slight change in the concentrate part of the ration was made in 1957. Molasses was replaced by an equal weight of oats. A change from 44% to 50% protein soybean oil meal was made and 50 lb. of the soybean oil meal was replaced with 50 lb. of linseed oilcake meal in order not to raise the protein level.

An attempt was made to feed two parts of concentrate to one part of hay. In 1956, which was the first year on the individual feeding program, slightly more than ⅔ of the total feed intake was concentrate. Toward

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3/10 lb. per year
at 8 weeks
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In the feed business,

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What are the component parts of the cost for each kind of *delivery* system?

What should filling, weighing, closing and warehousing bags cost? (What about a return bag program?)

What figures can you rely on in building and expanding your business along the most *profitable* lines?

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the end of the 1956 feeding period, a method was evolved whereby the grain allotment was placed on top of the cut hay for each calf. This made it possible to maintain the hay to grain ratio very close to that desired.

Calves were fed to appetite for about one hour twice each day. During the remainder of the day they were penned in small groups in the beef barn; straw was used for bedding. Exercise in outdoor pens was allowed each day. Calves were watered twice daily.

Variability within groups as measured by standard deviations was 45 lb. for 180-day actual weaning weight, 0.2 lb. for average daily gain, about 0.75 lb. for T.D.N. consumed per day, and about 50 lb. for T.D.N. per 100 lb. gain, researchers report.

Heavier weaned calves tended to gain faster on test, but the relationship was very low.

Calves which were heavier at weaning tended to consume more feed per day and be less efficient in the conversion of feed to gain when the test period was time-constant; i.e. from weaning to 1 year or from 2 weeks after weaning to 1 year. However, when the test period was weight-constant, weaned weight had no influence on the amount of feed eaten, and there was a tendency for heavier weaned calves to be more efficient in feed conversion than lighter weaned calves.

Average daily gain from weaning to one year of age measured practically the same differences as average daily gain in a period beginning two weeks after weaning and continuing to one year of age. There is no particular reason for allowing an adjustment period after weaning before starting the gain test, according to results from this study. However, calves in this experiment were creep-fed and the same conclusions might not result if no creep feeding were done, researchers caution.

Both time-constant periods were equal in predicting average daily gain in the weight-constant period, accounting for about 50% of the variation in the latter measure.

Much of the difference in average daily gain on a time-constant basis was associated with different amounts of feed consumed. On a weight-constant basis, most of the variation in gain was associated with factors other than the amount of feed consumed.

The relationship between gain and efficiency of feed conversion was higher in the weight-constant period than in either of the time-constant periods.

General recommendations regarding a gain test in beef animals resulting from this study, researchers say, would be:

(a) An adjustment period after weaning is not warranted, at least when calves have been creep-fed.

(b) Some progress can be made by emphasizing average daily gain from weaning to one year, but a weight-constant appraisal would be more accurate and more predictive of efficiency of feed conversion.

(c) From a practical point of view, there appears to be little value in measuring feed efficiency directly in a time-constant period, because heavier weaned calves are placed at a disadvantage under such a system.

BOSSY'S LUNCH AFFECTS MAN'S DESSERT

LAFAYETTE, IND. — A Purdue University dairy scientist reported that the feed cows eat can affect the quality of soft-serve ice cream.

The American Dairy Science Assn. meeting at Utah State University heard Dean R. Frazeur describe Purdue experiments which measured changes in milk fat saturation when dairy cows were fed various rations. In turn, the degree of fat saturation in the milk determines how rapidly butter forms when ice cream mix is agitated.

Mr. Frazeur said that because soft-serve ice cream is agitated and stirred more than other ice cream, butter formation is a problem. "People don't like a buttery texture in their ice cream," he said.

Mr. Frazeur disclosed that cows fed grain with corn cobs for roughage produced a highly saturated fat. Cows receiving corn, oats, white clover-bluegrass pasture and corn silage produced medium saturated fat. A ration of corn oil-skimmilk emulsion yielded low saturated fat.

Using standard mix composition, processing methods and freezing techniques, Mr. Frazeur obtained soft-serve ice cream churning times for mixes containing these variously saturated fats. In all cases, he found that as the degree of fat saturation increased, churning time lengthened.

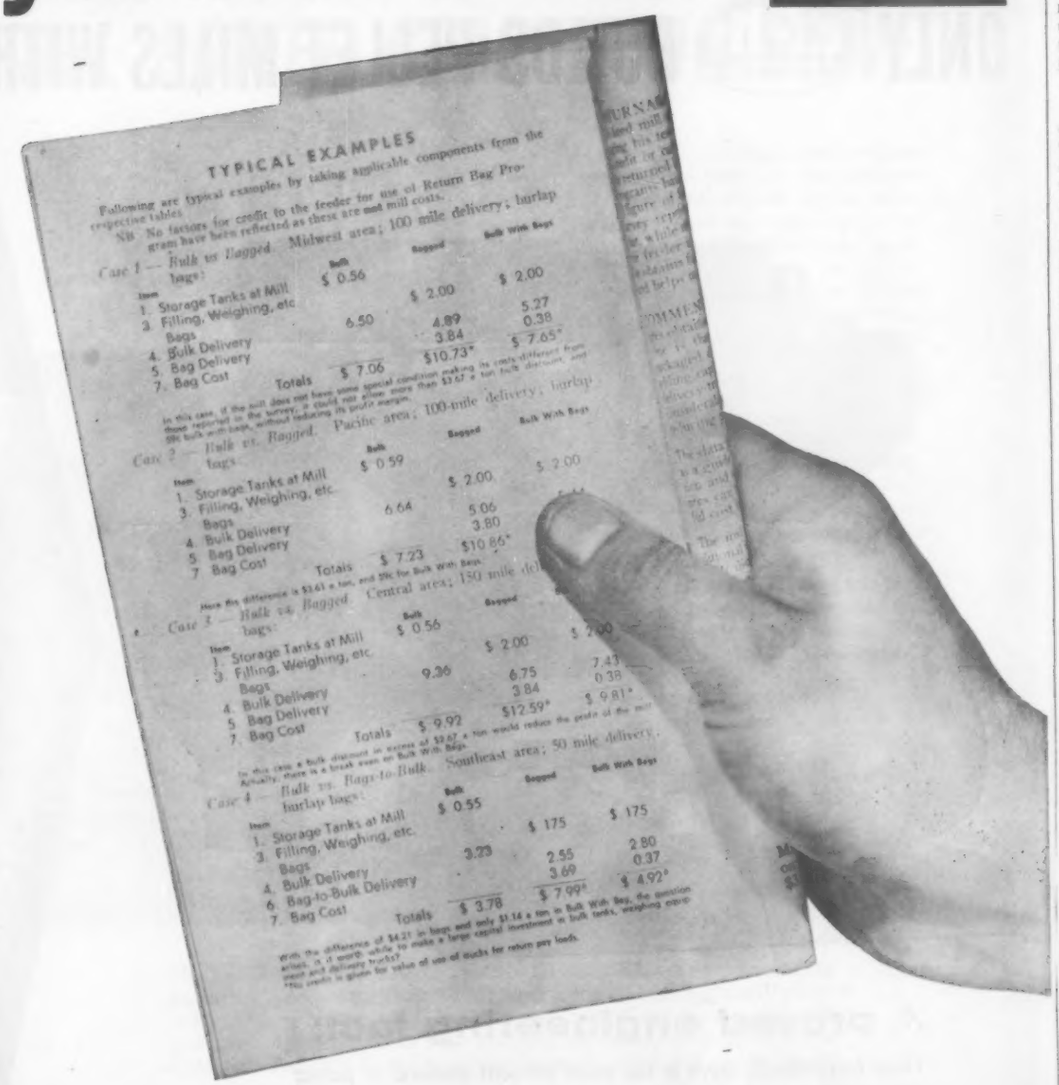
EFFECT OF CLIMATE AND TYPE OF SHELTER ON GROWING-FINISHING SWINE — The following report is the summary of a winter feeding experiment which featured a comparison of housing of market hogs in relatively cheap, unheated colony houses vs. housing in conventional swine barns.

The object of the experiment was to study rate of gain, efficiency of feed conversion and carcass quality of market pigs raised inside vs. those of pigs raised outside during the winter months; design and insulation of colony houses used in winter feeding of market pigs and the effect of temperature on the performance of growing-finishing hogs.

The increase in colony house temperature over outside ambient air temperature was greater for the houses insulated with rockwool bats or straw packed to the eaves than for an uninsulated house of the same type, researchers report. As the pigs grew, the differential between colony house temperatures and outside temperatures increased.

During the winter months, rate of gain and efficiency of feed conversion of market pigs raised in heated swine barns were superior to those of pigs housed in unheated colony houses. The pigs in the piggery with the tem-

you need to know costs!


TYPICAL EXAMPLES
Following are typical examples by taking applicable components from the respective tables
NB No factors for credit to the feeder for use of Return Bag Program have been reflected as these are not mill costs.
Case 1 — Bulk vs Bagged Midwest area; 100 mile delivery; burlap bags:
Case 2 — Bulk vs. Bagged Pacific area; 100-mile delivery; burlap bags:
Case 3 — Bulk vs. Bagged Central area; 150 mile delivery; burlap bags:
Case 4 — Bulk vs. Bags-to-Bulk Southeast area; 50 mile delivery; burlap bags:

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Contains necessary Vitamins, Antibiotics, Amino Acids and Trace Minerals to Vitamin Fortify your feeds for only a few cents a bag.
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A dependable body building feed containing guaranteed levels of Vitamins A-D and Aureomycin. Simple and economical to feed. Assures guaranteed feeding results.
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A COMPLETE MILK REPLACER WITH SWEET MILK SOLIDS — fortified with Aureomycin to help prevent scours and minor digestive disturbances. Packaged in 25 and 50 lb. bags.
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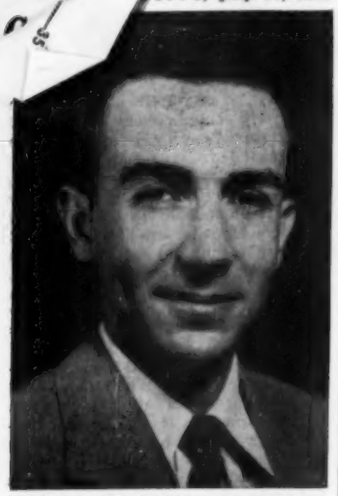

NEW EXCHANGE PRESIDENT — Jack W. Flammer, owner of J. W. Flammer Co., grain merchandiser, recently was elected president of the Los Angeles Grain Exchange at the annual membership meeting. Mr. Flammer now becomes a director of the National Grain Trade Council also. He recently completed a term as president of the California Grain & Feed Dealers Assn.

perature thermostatically controlled to 60°-64° F. consumed the most feed per day, grew the fastest and had the least desirable carcasses.

Pigs raised in an open-front colony house had a lower rate of gain, consumed less feed per day and had slightly superior carcasses when compared to pigs housed in low, flat-topped, closed-front colony houses.

The average return per pig over feed and initial pig costs for the pigs in unheated colony houses was $6.38 vs. $8.16 for inside-raised pigs.

Some important reservations should be attached to general recommendations regarding outside winter feeding. The past winter was extremely mild, especially during the early stages of this experiment, researchers note, and a very thrifty, well-started group of pigs was used. Younger, less thrifty pigs placed outdoors in colder weather might well behave differently, they add. However, it seems possible to plan a year around feeding program using low flat-topped colony houses of the closed-front type, if large groups are used and the pigs are crowded somewhat in order to maintain more optimum temperatures within the house, the researchers concluded.

INSIDE-OUTSIDE COMPARISON AND RESTRICTED FEEDING OF SWINE—Objects of this experiment were to further compare inside vs. pasture-reared growing-finishing pigs; to compare restricted vs. full feeding on pasture, and to compare all-grain rations supplemented with minerals, with complete balanced rations for growing-finishing swine on pasture.

Pigs self-fed a balanced ration inside went to market an average of 14 days sooner, used about 60 lb. less feed per pig (i.e. for 150 lb. gain) and were essentially the same in carcass characteristics as pigs self-fed outside.

Pigs fed a restricted amount of a balanced ration inside took 36 days longer to reach market weight, used essentially the same amount of feed per pig and had somewhat more desirable carcasses than control pigs self-fed a balanced ration inside. Pigs fed a restricted amount of balanced ration on pasture took 41 days longer to reach market, consumed about 22 lb. more feed per pig and had slightly less backfat than pigs self-fed a balanced ration on pasture.

The feeding of grain plus free-choice minerals on pasture resulted in slower gains and inferior feed conversion ratios than feeding the same ration inside on concrete.

Grain-fed pigs took eight to nine months to reach market weight as compared to five and a half to six months for control pigs on balanced rations. The main drawback to the feeding of all-grain rations to pigs in this experiment was the extremely slow gains. However, last year 50% of the pigs on similar rations failed to reach market weight.

Pigs previously on all-grain rations and averaging 140 lb. showed a remarkable recovery when transferred to a standard grower ration during the last five weeks of the experiment.

A drop in grade A carcasses from 77% to 52%, with an increase from 0 to 6% in grade C's, occurred as a result of the grade standards implemented in October, 1959.

ADDED FAT IN RATIONS FOR SWINE—The purpose of this experiment was to study the effect of the addition of stabilized animal fat in conjunction with various protein levels on the performance and carcass quality of pigs.

Stabilized animal fat added to swine rations resulted in increased gains, more so on rations containing medium (18%) or high (22%) protein levels as compared to low protein (14%) rations, researchers report.

Added fat depressed daily feed consumption, they added. Pigs on 30% added fat rations consumed an average of about 3 lb. feed per day as compared to about 4 lb. per day for pigs fed no added fat. Feed required for 100 lb. gain decreased with increased levels of fat in the ration.

Pigs fed added fat had a higher dressing percentage, greater backfat thickness and less desirable carcasses than pigs fed no added fat.

Medium and high protein rations resulted in increased loin area size, a tendency to less backfat thickness and improved grades over pigs fed the low protein rations.

Cash returns over feed and initial pig costs were lower in lots with added fat, which was more a reflection of poorer grades and lower market value per pig than of feed costs. The average cost of producing 100 lb. gain on the six rations with added fat was $10 vs. $10.28 for the three rations with no added fat.

This experiment is of a preliminary nature and the rations used were not intended to be practical, the researchers point out. As a source of

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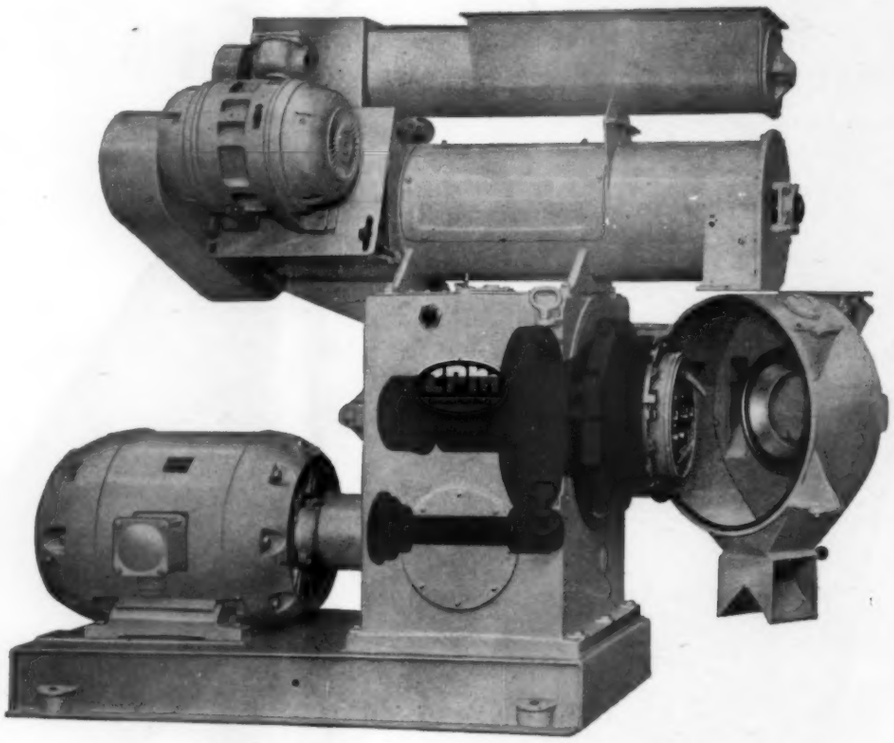

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energy, fat was well utilized by the pigs, but in general a more critical problem in swine production is that of obtaining high quality carcasses when high energy rations are fed. The cost of gains when fat was added to the ration of growing-finishing pigs was competitive, but the effects on carcass quality of the levels used in this experiment were disastrous, the researchers noted.

ANTIBIOTICS IN BABY PIG CREEP FEEDS—This test was conducted to determine the value of a mixture of Aureomycin and Terramycin as compared to penicillin and streptomycin in creep rations for the control of gut edema and for growth and feed efficiency of baby swine.

There were no differences in rate of gain, feed efficiency or evidence of gut edema in baby pigs creep fed a ration containing penicillin and streptomycin as compared to those fed the same ration, but containing Aureomycin and Terramycin, researchers note.

Baby pigs did not eat enough creep feed during the critical stage of growth to consume sufficient medication for disease control, the researchers added.

SUPPLEMENTATION OF WHEAT FOR BABY PIGS—Lysine is still too expensive to be added routinely to swine rations, but with improved manufacturing techniques, increased volume of production and lower price it may become an important supplement for use in swine rations, researchers concluded from an experiment.

The object of this experiment was to study the effects on growth of baby pigs of the inclusion of lysine, other amino acids and protein supplements in a basal wheat ration.

Wheat alone did not support normal performance in baby pigs. Supplemental lysine improved performance in baby pigs fed a basal wheat ration, said researchers.

Methionine and tryptophane did not improve the growth of baby pigs when added to the basal wheat ration supplemented with lysine, they noted.

Supplementation with fish meal, skimmilk powder plus lysine, and soybean oil meal plus lysine gave improved performance as compared to that obtained by supplementation with lysine alone.

ROUGHAGE PELLETS FOR WINTERING DAIRY HEIFERS — The use of roughage pellets is too expensive to be practical at present, researchers said as a result of tests with wintering dairy heifers.

The object of the experiment was to determine the effect of roughage pellets containing high proportions of wheat straw on growth and subsequent production of dairy heifers.

Five heifers were fed the pelleted ration and the other five fed good alfalfa hay. The animals were kept outdoors from Dec. 12, 1959, to April 30, 1960, with only an open-front shed for shelter.

Researchers found that heifers fed pellets containing a high proportion of wheat straw ate less feed, gained considerably less than comparable animals fed alfalfa hay, but maintained body weight and good health during a 20-week experimental period.

No nutritional inadequacy of the straw pellets could be detected.

More research is necessary to investigate the factors affecting the use of straw in rations for farm animals, the researchers concluded.

HONORED AT DELMARVA — Ray E. Murphy, Salisbury, Md., poultry equipment dealer and manufacturer, was given the "distinguished citizen award" at the Delmarva Chicken Festival held recently at Selbyville, Ga. He has worked on many committees and surveys and has been president of the Delmarva Poultry Industry, Inc.

FEEDING DAIRY CALVES—The choice of a method of feeding dairy calves would depend largely on the value of skimmilk to the farmers, researchers concluded as the result of a study.

The object of this test was to compare two methods of feeding dairy calves: (1) Feeding whole milk to 3 weeks of age and skimmilk plus a simple grain mixture to 4 months of age, and (2) limiting whole milk feeding to 250 lb. during the first five weeks with a dry calf meal to 4 months of age and to compare pelleted calf meal with the same meal not pelleted.

Three lots of nine calves were fed as follows: (1) Whole milk to 3 weeks of age, skimmilk to 4 months of age and a simple grain mixture; (2) limited whole milk to 5 weeks of age, pelleted calf meal to 4 months of age; (3) limited whole milk to 5 weeks of age, unpelleted calf meal to 4 months of age.

Calves fed whole milk to 3 weeks of age and skimmilk to 4 months of age, with a simple grain mixture, ate more and gained faster than those fed limited amounts of whole milk to 5 weeks of age with a commercial calf meal to 4 months of age, researchers said.

Calves fed limited whole milk for 5 weeks and a commercial calf meal made fair gains at a reasonable cost.

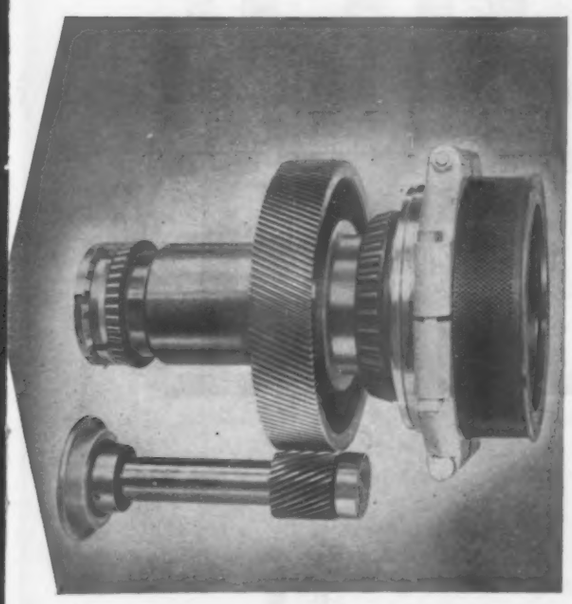
The pelleted meal supported greater gains to 120 days than did the same meal unpelleted, but the calves fed the unpelleted meal weighed somewhat more at a year of age than did those fed pellets.

Although the calves fed limited

(Continued on page 46)

FULL POWER GEAR TRAIN DRIVE

When you pay for horsepower in a pellet mill, you want it transmitted to the pelleting job. Not two-thirds. Not three-fourths. *But all the power you paid for!*



One system — direct gear drive — provides this assurance of consistent, efficient power transmission that no combination of ready-made belts can hope to do. Consider for a moment the universal engineering acceptance of gear system power transfer in the design of trucks, automobiles, tractors and other heavy duty power equipment. Yet, among pellet mill manufacturers, only CPM builds this tremendous plus feature into every single mill.

CPM gear trains offer many design advantages:

- *Precision power drive of extremely long service life.* A drive that doesn't lose its "snap" as tension systems must.
- *Compact, space-saving.* All gears machined from high-alloy steel and fitted to perfect alignment. The entire unit is sealed in metal with all bearings and gears operating in a protective oil bath. The drive is an integral part of the machine, affording a unity that multiple belt hook-ups can never achieve.
- *Safety is greatly increased,* both from fire and for personnel who work with and around the equipment. No cleats, cogs or belts for uneven tension and strain. Nothing to "let fly," slip or stretch.

The FULL POWER GEAR TRAIN DRIVE, like other outstanding engineering exclusives from CPM, have made California first in pellet mills for over thirty years. See the man from CPM for a pellet mill *precision-engineered* to do your pelleting job better. *Remember: More California Pellet Mills are sold today than all other makes combined!*

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CHASE BAGS

There's None Better!

Ralph Manning makes money even at low egg prices. That's why this year he is buying: 3400 more chicks; 2½ times more feed tonnage; new automatic waterers; new automatic feeders; more roosts and nests; another pit cleaner; a new egg cooler; and lumber, concrete and building supplies.

Meet Ralph Manning...

money-making egg producer whose secret... meeting performance goals... unfolds a new feed promotion idea that can

SELL MORE FEED

HESS & CLARK ANNOUNCES FPI

— a goal-setting plan to help your customers help themselves

when your

CUSTOMERS PROFIT.. ...YOU PROFIT

Full
Performance
Index

HERE'S HESS AND CLARK'S STORY TO YOUR FEED CUSTOMERS

FPI is a totally new, exciting and **important** promotion idea from Hess & Clark. It fills a vital need by setting **performance goals** for poultrymen . . . and emphasizes the importance of good birds, good feed and good management in meeting these goals.

The unveiling comes this August, with a unique 8-page announcement in the leading farm and poultry magazines. Follow-up ads will make a total of **65 million** FPI ad-page impressions during the next 12 months! (Ads will continue to feature the factual interviews with nf-180 users, plus dealer listings.) Radio will add millions more FPI impressions.

The entire FPI plan has already been checked with poultrymen, flock service men and feed men. It's been judged sound, helpful, practical. We think you'll agree it's 1960's **outstanding** Feed Promotion Idea.

Feed
Promotion
Idea

HERE'S HOW YOU CAN TIE IN WITH THE FPI PROGRAM

(1) Fortify your laying feeds with low-level nf-180 . . . the performance-proven drug that boosts production and profits by controlling disease drag. (2) Call your nf-180 medicated feeds "FPI Laying Feeds." (3) Sell 'em with a line-up of really convincing FPI selling aids.

These include: a free 12-minute color sound-strip film for your farmer meetings; FPI flock performance inventory chart for better record keeping — the first and only one of its kind; a "figure-it-out-yourself" folder for use by your salesmen; nf-180 service center for dealers' counters or walls; FPI emblem decals; and, of course, tie-in mailers, posters and ad mats.

We're ready and anxious to present FPI to you. Two short color films tell the full story in just 19 minutes. Contact us immediately so you'll be ready when the FPI campaign breaks.

SYMBOL GIVEN AWARD—The "little red barn" which Ciba Pharmaceutical Products, Inc., of Summit, N.J., is now using to represent its feed additive product line was recently selected by the American Institute of Graphic Arts as an outstanding example of good design for industry. Seen here with a sales kit on which the design appears is Phil Swift of the company's advertising design group, who created it.

whole milk plus a calf meal did not reach average weight at a year of age, they were not seriously underweight and were generally in thrifty condition.

PELLETED RATIONS FOR FATTENING LAMBS — Lambs self-fed pelleted rations containing native grass hay ate more and gained faster than those fed the same rations not pelleted, based upon the results obtained in this experiment, researchers report.

The object of the test was (1) to compare two methods of fattening lambs: self-feeding chopped hay and ground grain vs. self-feeding pelleted rations, and (2) to compare the effects of varying proportions of a native grass hay on rate of gain and feed efficiency.

The lambs fed pellets required 7% less digestible nutrients per unit of gain. Any saving in feed cost was more than offset by the cost of grinding and pelleting, the researchers report.

Lambs self-fed meal rations with chopped grass hay gained as rapidly, consumed no more feed, and required 14% less digestible nutrients per unit of gain than did those fed alfalfa and whole barley.

Increasing the proportion of grass hay from 45% to 60% in pelleted rations increased feed consumption and decreased feed efficiency, the researchers noted. Increasing the hay content of non-pelleted rations decreased feed consumption and increased the number of pounds of feed required per unit of gain, but decreased the digestible nutrients required per unit of gain. The proportions of grass hay used had no appreciable effect on rate of gain.

Native lowland grass hay, properly supplemented with energy, protein and minerals, was fed to fattening lambs at up to 60% of the ration with results comparable to those obtained by hand-feeding alfalfa and barley.

Increasing the energy content of the 60% grass hay pellets did not result in increased rate of gain nor reduce the digestible nutrients required per unit of gain.

None of the lambs showed symptoms of over-feeding or enterotoxemia.

Blame 'Harvest Fever' For Storage Spoilage

MANHATTAN, KANSAS — "Harvest fever," or starting to harvest before the grain is completely ripe, is the main reason wheat spoils in storage.

That is the opinion of 144 Kansas elevator operators interviewed by agricultural economists of Kansas State University and the U.S. Department of Agriculture.

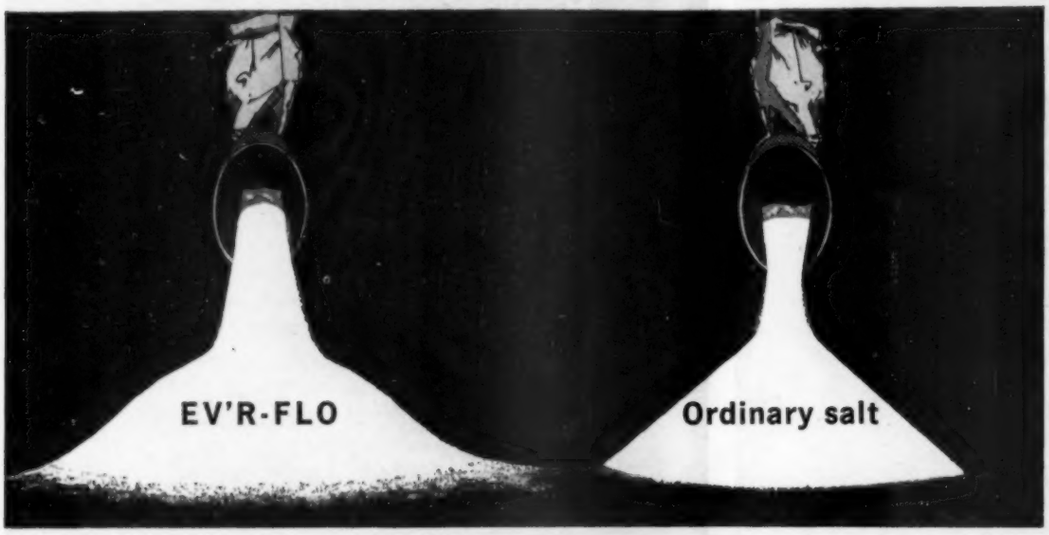
The elevator operators ranked premature cutting of wheat as the No. 1 cause of deterioration of wheat in storage, with damp weather during harvest second. Uneven ripening and weeds also were mentioned.

One third of the elevator operators said that even in dry years wet wheat is a serious problem. Most of the operators accept wheat of no more than 13% moisture content for storage, but quite a lot take 14% moisture content wheat, and a few said they would go to 14.5% or higher. Only four had grain dryers. Others mix and blend to lower moisture content.

L. Orlo Sorenson, Kansas State, and Stanley K. Thurston, USDA, conducted the interviews. Elevator managers said they turned grain about three times a year to keep it in condition; however, some turn the grain monthly.

Of the 144 managers interviewed, only seven do not use a fumigant to help maintain quality in stored grain. Fumigant and other costs for maintaining quality varied from $11.74 to $30.21 a year for each 1,000 bu.

New fastest flowing salt! EV'R-FLO!



THE FASTER IT FLOWS, THE WIDER IT SPREADS. Cone test shows how new Ev'r-Flo Salt spreads very quickly. Ordinary salt at right makes a higher cone because it creates more friction, flows slower.

from Carey research: EV'R-FLO—first mixing salt engineered to cut feed mill costs

Cone Test shows what happens in your plant! When you unload a hopper car, move salt from storage, or meter it into your automatic feed-mixing equipment, Carey Ev'r-Flo flows faster and more freely than ordinary salt.

That's why you get reductions of 10% or more in unloading time! Increased storage capacity, too—125 tons of Ev'r-Flo go in the same space filled by 100 tons of ordinary salt! Flowability and higher density make the difference!

Save salt, too. A special Carey process makes Ev'r-Flo unusually free-flowing and water resistant. Little additive is required, so Ev'r-Flo is actually a saltier salt . . . each ton goes farther.

Ideal for today's automatic feed mill equipment. You push the button and Ev'r-Flo goes. Less dust, less caking, lumps, and bridging in equipment . . . and Carey Ev'r-Flo disperses quickly and uniformly through the other feed ingredients.

ONE 40-TON ORDER WILL CONVINCE YOU!
If this first 40-ton (hopper car) load doesn't flow free and easy, your money will be refunded. Carey Ev'r-Flo Salt is now available in the 22 states where Carey Farm and Industrial Salt is sold. Order today and start saving with Carey Ev'r-Flo.

Have this Carey Ev'r-Flo water test made in your office without obligation. Water poured into beaker does not penetrate Ev'r-Flo crystals. Even after water is poured out, Ev'r-Flo will still flow! See for yourself; phone or write the sales office nearest you (Atlanta, Denver, Fort Worth, Omaha, St. Louis, Kansas City) or The Carey Salt Company, Hutchinson, Kansas.

◀Paul V. Imes, Director of Carey Salt Research

CAREY

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Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

July 27-29—West Virginia Poultry Convention; Moorefield, Va.; Harold M. Hyre, Associate Poultry Husbandman, West Virginia University, Morgantown.

Sept. 8-9—Pet Food Institute; Drake Hotel, Chicago; sec., Clyde Kassens, 333 N. Michigan Ave., Chicago.

Sept. 12-13—Minnesota Animal Nutrition and Health Short Course; University of Minnesota, St. Paul.

Sept. 13-15—Dixie Poultry Exposition; Asheville, N.C.; sec., N. B. Nicholson, Monroe, N.C.

Sept. 21-23—Pennsylvania Millers & Feed Dealers Assn.; Hotel Penn Harris, Harrisburg, Pa.; sec., Donald W. Parke, P. O. Box 329, Ephrata, Pa.

Sept. 22—Minnesota Beef-Grassland Field Day; Rosemount Experiment Station, Rosemount, Minn.

Oct. 27-29—National Swine Industry Conference; University of Kentucky, Lexington, Ky.; chm., Keith Myers, Secretary, National Swine Growers Council, Box 241, Grundy Center, Iowa.

Nov. 3—South Dakota Swine Research Day; South Dakota State College, Brookings.

1961

Feb. 3-4—Minnesota Turkey Growers Assn., Leamington Hotel, Minneapolis; sec., Roy Munson, 2200 University Ave., St. Paul, Minn.

July 19-21—American Poultry Congress and Exposition; Ellis Auditorium, Memphis, Tenn.; sponsored by American Poultry & Hatchery Federation; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

July 22—Poultry Servicemen's Clinic; Hotel Peabody, Memphis, Tennessee; sponsored by Poultry Breeders of America; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

July 22-26—Georgia Feed Assn.; General Oglethorpe Hotel, Wilmington Island, Savannah; sec., Will L. Kinard, Suite 210, 3240 Peachtree Road Bldg., Atlanta 5, Ga.

July 29—Ohio Sheep Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 1-6—Feed Microscopy Short Course; Memorial Student Center, Texas A&M College, College Station; sponsored by Texas Agricultural Experiment Station; chm., Ewing E. Brown, State Chemist's Office, Texas Agricultural Experiment Station.

Aug. 2-3—Mid-South Soybean and Grain Shippers Assn.; Hotel Peabody, Memphis, Tenn.; Paul C. Hughes, P.O. Box 692, Blytheville, Ark.

Aug. 2-5—Poultry Science Assn.; University of California, Davis; sec.,

(Turn to CALENDAR, page 69)

CALENDAR FOR 1960-61

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Dr. Wallis Answers

YOUR QUESTIONS ON VITAMIN D NUTRITION

Q: How can I be sure each pound of my feed has the same amount of vitamin D as the next pound will have?

A: Uniform distribution depends mainly upon the physical properties of the vitamin D concentrate, proper mixing methods and efficient equipment. By careful management, mixing, adequate for all practical purposes, can be readily achieved. The extremely small particle size and free-flowing characteristics of Fleischmann's FIDY Irradiated Dry Yeast help tremendously in getting good distribution.

Q: At what age of animal is vitamin D most important?

A: Lack of adequate vitamin D can be disastrous at most any age. Formerly, vitamin D deficiency was thought to occur only in young growing animals. Research has now shown that mature dairy cows need vitamin D. Difficulties from inadequate vitamin D have also been observed in older beef cattle, sheep and swine.

Q: Is there a relationship between the daily feeding of a higher level of vitamin D, 8,000 units per pound of feed or more, and the possible control of milk fever without having to feed the massive doses recommended for the short period before freshening?

A: Recent careful research provides reasons why benefits from year around feeding of higher levels of vitamin D might be expected. Older cows have previously unrecognized difficulties in absorbing and utilizing calcium. Extra vitamin D helps. The results of clinical and practical studies on the control of milk fever by fortifying regular dairy rations at higher levels are very encouraging.

Q: Does artificial drying lessen the vitamin D content of hay?

A: Figured on a dry matter basis, the vitamin D content of artificially dried hay is probably about the same as was in the green forage before drying. During field curing vitamin D tends to increase but the amount is not as great as commonly supposed. Reports on 13 samples showed an average increase of only 115 units per pound during field curing. Such an increase in vitamin D in a whole ton of hay would be worth only about ½ cent.

Q: What is the difference between brewers dried yeast and irradiated dry yeast?

A: Brewers dried yeast is a by-product from the brewing of beer and ale which is used in feeds mainly as a source of the B-complex vitamins and protein. FIDY Irradiated Dry Yeast is a primary grown yeast which has been subjected to ultraviolet irradiation under carefully controlled conditions to produce vitamin D_2. It is used in four-footed animal feeds solely as a source of vitamin D.

A. C. Wallis

For more complete answers to any of these questions write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

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Formulate your feeds with FIDY Irradiated Dry Yeast—for reliable Vitamin D fortification.

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Research provides new ideas on:

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- **The availability of calcium reserves in older cattle.**

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IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

The Role of Linseed Oil Meal in Beef Cattle Nutrition

"Linseed oil meal has been a favorite of cattle feeders for years because of the increased hair coat bloom which can be attributed to it. Comprehensive research has shown that there are further desirable qualities which enhance its use in beef cattle supplements."

By Dr. T. W. Perry
Purdue University

Dr. T. W. Perry

AUTHOR—In his research work with beef cattle at Purdue, Dr. Perry has been concerned with various aspects of cattle feeding. The research has included such things as utilization of farm roughages and development of Purdue Supplement A; protein sources; feed additives; high-moisture corn; urea; ratio of roughage to concentrate; pelleting vs. meal rations. He also has worked on a number of projects involving sheep and swine. Dr. Perry has authored a number of scientific papers, mimeographs and semi-technical articles. He holds undergraduate degrees from Western Illinois State College and Iowa State University and M.S. and Ph.D. degrees from Purdue University.

Cattle feeders have relied on linseed oil meal for many years to give their fattening cattle that extra something called bloom. And although we characterize bloom as increased "luster" or "shine" or "gloss" of the hair coat, actually bloom on finished cattle is as indescribable with words for those who have not seen it as is the morning dew on rose petals.

Several years of research concerned with the role of linseed oil meal in cattle feeding have been conducted at Purdue University. Much new information concerned with how best to fit it into cattle rations has been brought to light. Furthermore, we now know that the increased bloom effect is actually "beauty that is more than skin deep," and is reflected in more desirable beef carcasses.

In addition, it has been shown rather conclusively there is a complementary effect between urea and linseed oil meal. Furthermore, a combination of the two compounds provides a supplemental source of protein for beef cattle which is without peer when compared in terms of rate of gain, carcass quality and finish.

A summary of several experiments is presented to show the value of linseed oil meal in beef cattle fattening rations.

TABLE 1. Comparison of Soybean Oil Meal and Linseed Oil Meal as a Source of Protein in Supplement A (140-Day Trial)

	I Supplement A (with soybean oil meal)	II Supplement A (with linseed oil meal)
Steers per lot	20	20
Growth data, lb.—		
Average initial weight	798	806
Average final weight	1197	1187
Total gain per steer	399	381
Average daily gain	2.85*	2.72*
Daily feed, lb.—		
Corn silage	55	56
Supplement	3.50	3.50
Crude protein intake	2.9	2.6
Feed per 100 lb. gain, lb.—		
Corn silage	1926	2052
Supplement	123	129

*Some of the cattle in this experiment were implanted with diethylstilbestrol.

1. Linseed oil meal and soybean oil meal compare favorably on a pound-for-pound replacement basis.

Solvent soybean oil meal contains a guarantee of 44% crude protein, whereas the linseed oil meal contains the usual guaranteed 34% crude protein. Therefore, it would not be expected that the two would be equivalent on a pound-for-pound replacement basis as a source of supplemental protein. However, research was designed to compare the two without regard to difference in protein content when fed as a source of supplemental protein for fattening cattle. Two groups of yearling steers were fed a fattening ration consisting of a full-feed of corn silage plus 3.5 lb. Purdue Supplement A and free choice minerals. For one of the two groups of steers, the Supplement A formula contained 65% solvent soybean oil meal, whereas for the other one, the Supplement A formula contained 65% linseed oil meal. (Table 1)

Although the cattle fed the Supplement A which contained soybean oil meal gained slightly faster than those fed the supplement containing linseed oil meal, a mathematical analysis of the data indicated the differences were not statistically significant. Computed average daily crude protein consumption for the two groups of cattle was 2.86 lb. and 2.57 lb. for the respective soybean oil meal and linseed oil meal lots. Either of these figures compare favorably with the 2.6 lb. crude protein recommended by the National Research Council for 1,000 lb. fattening yearling beef cattle.

In another experiment, calves averaging 520 lb. at the start were fed a fattening ration of eight parts ground ear corn to one part of Sup-

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★ Produces pellet feeds from dry meal mixtures—without steam
★ Ideal for feed mills, dairies, feed lot operators, and big hog and dairy operations
With a production capacity up to 750 lbs. per hour, this machine will produce enough pelleted ration in ONE DAY to feed 40 milk cows for one week!—or 45 beef cattle, or 150 hogs or 2500 laying hens for one week! Cost of operating (including power, labor, depreciation, etc.)—less than $3.00 per ton.
Ideal for feed mills as a supplementary machine for short orders. Perfect for big time dairy, poultry and live stock operations. Can be fitted with simple hopper for hand feeding or installed under overhead gravity bin for bulk production. Three men can move it anywhere you want or load it in a pick-up truck.
No steam . . . no complicated installation. Choice of seven die rings for any pellet size you need.

7½ H.P. direct coupled motor. Height 5'9". Weight 725 lbs. Complete with feed meter to prevent overloads. Backed by 35 years experience in cold or dry pelleting production.
Superior GRAIN FEED SEED PROCESSING EQUIPMENT
The Superior Company—a Division of Superior Separator Co., Hopkins, Minn.

plement A. In one of the two lots, the Supplement A contained 65% soybean oil meal, and in the other the Supplement A contained 65% linseed oil meal. (Table 2)

So, in a second experiment, fattening calves have shown that linseed oil meal and soybean oil meal, as well as cottonseed meal, are equal on a pound-for-pound replacement basis as a protein supplement for beef cattle. Cattle fed the soy supplement and ground ear corn consumed a calculated 2.4 lb. crude protein per day, those fed the linseed oil meal supplement and ground ear corn consumed 1.9 lb. crude protein per day, and those fed the cottonseed meal supplement consumed 2.0 lb. crude protein per day. Straight soybean oil meal was inferior to any of the versions of Supplement A fed. Probably the additional factors contained in the more complex Supplement A are required to bring about the all-important balance of nutrients.

A third experiment was conducted to show whether greater gains would result from extra linseed oil meal added to make the daily crude protein intake from the linseed oil meal supplement equal to that obtained from the soybean oil meal supplement. It

(Continued on page 46)

TABLE 2. Comparison of Soybean Oil Meal, Linseed Oil Meal and Cottonseed Meal as a Source of Protein in Purdue Supplement A
(213-Day Trial)

	Lot I Soybean meal (44% crude prot.)	Lot II Soybean oil meal Sup. A (32% crude prot.)	Lot III Linseed oil meal Sup. A (26% crude prot.)	Lot IV Cottonseed meal Sup. A (29% crude prot.)
Number of steers	11	11	12	12
Growth data, lb.—				
Average initial weight	524	520	523	526
Average final weight	872	1004	1007	982
Total gain	348	484	484	456
Average daily gain	1.62	2.27	2.27	2.15
Daily feed, lb.—				
8 gr. corn : 1 Sup. A	14.9	20.8	20.0	20.3
(Gr. ear corn)	(13.2)	(18.5)	(17.8)	(18.1)
(Sup.)	(1.7)	(2.3)	(2.2)	(2.2)
Crude protein intake	1.7	2.4	1.9	2.0
Feed per 100 lb. gain, lb.—				
8 gr. corn : 1 Sup. A	916	913	881	946
(Gr. ear corn)	(814)	(812)	(783)	(841)
(Sup.)	(102)	(101)	(98)	(105)

TABLE 3. Linseed Oil Meal and Soybean Oil Meal Compared on a Protein Equivalent Basis
(300-Day Trial)

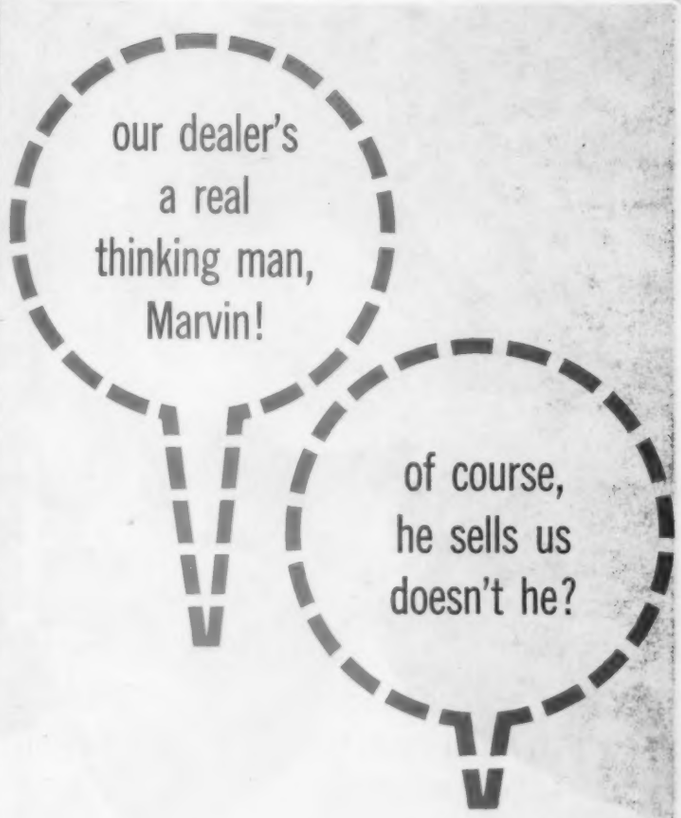
	Lot I Soybean oil meal Sup. A (2.5 lb. per day)	Lot II Linseed oil meal Sup. A (3.0 lb. per day)
Number of steers	20	20
Growth data, lb.—		
Average initial weight	492	490
Average final weight	1132	1130
Total gain	640	640
Average daily gain	2.14	2.14
Daily feed, lb.—		
Shelled corn	11.7	11.9
Supplement A	2.5	3.0
Silage	15.0	15.0
Crude protein intake	2.1	2.2
Feed per 100 lb. gain, lb.—		
Shelled corn	547	559
Supplement A	117	141
Silage	700	701

TABLE 4. Soybean Oil Meal vs. Linseed Oil Meal With and Without Added Urea
(213-Day Trial)

	Lot I Soybean oil meal Sup. A 32% crude prot.	Lot II Linseed oil meal Sup. A 26% crude prot.	Lot III Soy Sup. A 5% urea 32% crude prot.	Lot IV Linseed Sup. A 5% urea 32% crude prot.
Number of steers	11	12	12	12
Growth data, lb.—				
Average initial weight	520	523	522	524
Average final weight	1004	1007	999	1044
Total gain	484	484	477	520
Average daily gain	2.27	2.27	2.24	2.44
Daily feed, lb.—				
8 gr. ear corn : 1 Sup. A	20.8	20.0	19.7	20.4
Feed per 100 lb. gain, lb.—				
8 gr. ear corn : 1 Sup. A	913	881	880	836

TABLE 5. Linseed Oil Meal in Combination With Urea Produces Superior Carcasses

	Lot I Soybean oil meal Sup. A 32% crude protein	Lot II—Linseed oil meal Sup. A 5% urea 32% crude protein
Experiment I—213 Days (1957)—		
Number of steers	11	12
Average initial weight	520	524
Average final weight	1004	1044
Average daily gain	2.27	2.44
Federal grades	6 choice 5 good	9 choice 3 good
Live weight selling price, cwt.	$21.75	$22.50
Experiment II—300 Days (1959)—		
Number of steers	20	20
Average initial weight	492	493
Average final weight	1132	1152
Average daily gain	2.14	2.20
Federal grades	11 choice 9 good	15 choice 5 good
Sale price per carcass	$282.85	$293.64



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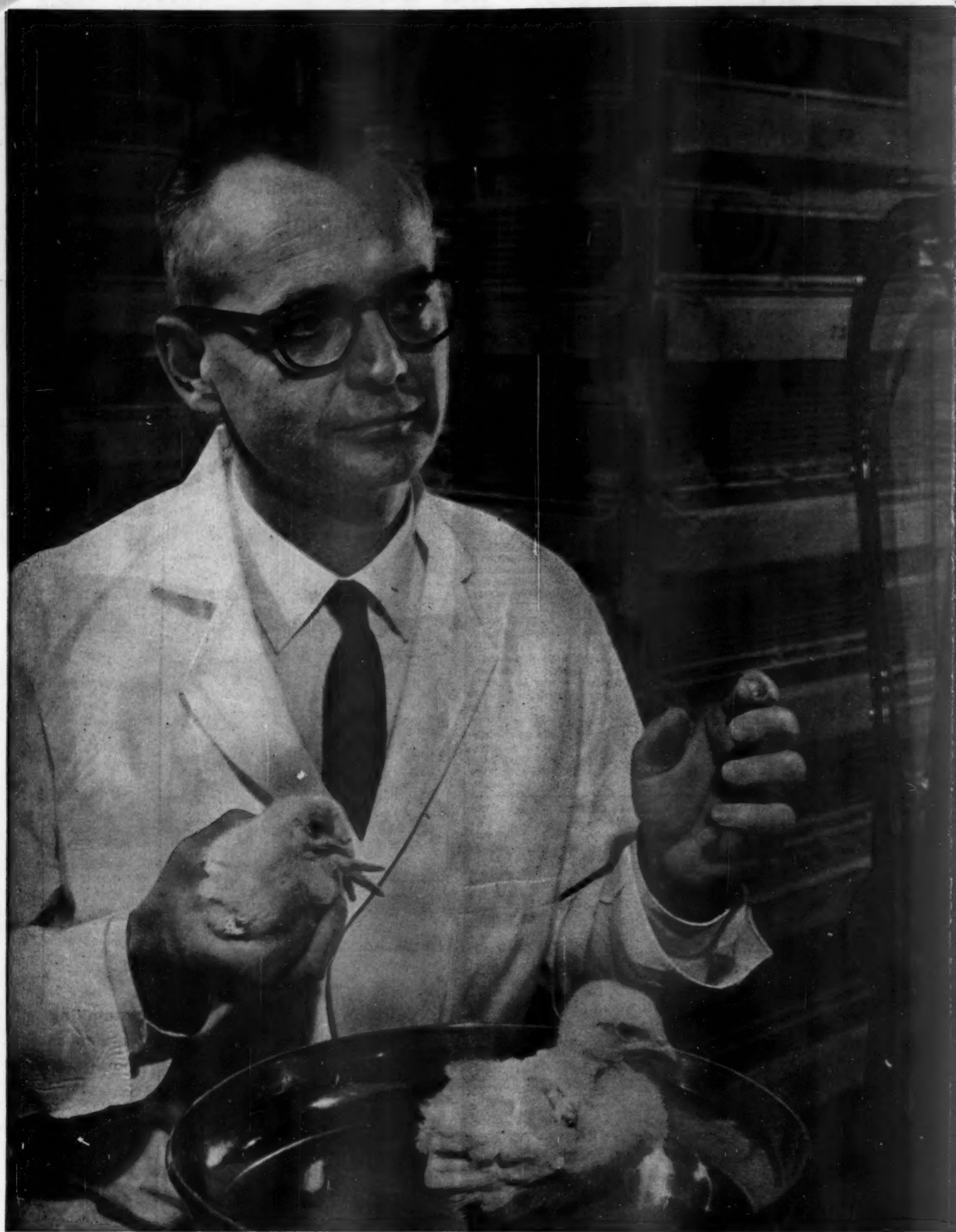

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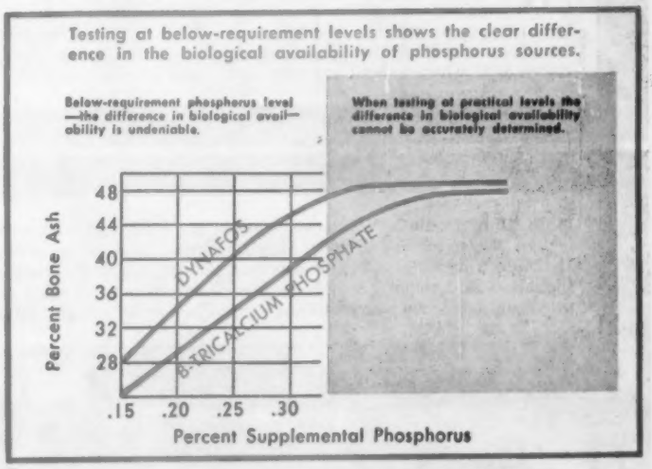

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had been shown that soybean oil meal and linseed oil meal were equal on a pound-for-pound replacement basis. Therefore, if the two were fed on a protein equivalent replacement basis, how would they compare?

Steer calves were fed a fattening ration of a full-feed of shelled corn, 15 lb. of corn silage, and either 2.5 lb. Supplement A with soybean oil meal or 3.0 lb. Supplement A with linseed oil meal. From either supplement the steers would receive a calculated 0.79 lb. crude protein so that the two sources of protein could be compared strictly from a protein equivalent basis. (Table 3)

Under these feeding conditions there was no advantage in equalizing the supplemental protein intake by feeding more linseed oil meal when soybean and linseed oil meal are compared. Apparently linseed oil meal compensates in some other manner by producing just as rapid gain with less total crude protein.

Thus, three experiments have shown that linseed oil meal and soybean oil meal are comparable on a pound-for-pound replacement basis for beef cattle when measured in terms of rate and efficiency of gains. Furthermore, there was no advantage in feeding additional linseed oil meal to compensate for its lower crude protein content.

2. A combination of linseed oil meal and urea is superior to soybean oil meal as a protein supplement for beef cattle.

Apparently there is a complementary or "dovetailing" effect when urea and linseed oil meal are combined because beef cattle fed this combination have repeatedly out-performed those fed any of the common vegetable proteins.

A. A combination of linseed oil meal and urea stimulates rate of gain.

Research was conducted to compare supplements whose source of nitrogen was principally from natural protein with supplements whose nitrogen source was partially from urea. A group of steer calves was fed a fattening ration of eight parts ground ear corn to one part of Supplement A —or various modifications as indicated in Table 4. It is quite apparent that the combination of urea and linseed oil meal in the Supplement (Lot IV, Table 4) resulted in a marked increase in gain over cattle fed either the straight soybean oil meal or linseed oil meal supplements (Lots I and II, Table 4). No such complementary effect was apparent between soybean oil meal and urea (Lot III, Table 4) since such fed cattle gained at the same rate as those whose supplements contained no urea. Accompanying the increase in gain of the cattle fed urea and linseed meal, there was approximately a 5% improvement in feed efficiency. Obviously, this improvement in feed efficiency would be reflected in less dollars-and-cents cost in producing gains on the cattle.

B. A combination of linseed oil meal and urea improves carcass quality.

The "beauty" of cattle fed linseed oil meal is more than skin deep. When you feed a combination of linseed oil meal and urea as a supplemental protein, superior carcasses can be expected. The results from two experiments are given to show this effect on the value of fat cattle. (Table 5)

In one experiment the sale price was calculated on the liveweight sale price, which meant 75¢ per hundredweight more for the cattle fed the linseed oil meal-urea combination (Table 5). In the other experiment, carcasses from steers fed the linseed oil meal-urea supplement were worth $10.79 more than those from steers fed the soybean meal-Supplement A. So, any way you look at it—from the inside or the outside—the cattle fed linseed oil meal and urea in combination out-performed cattle fed any other way in the comparisons.

SUMMARY—Linseed oil meal has been a favorite of cattle feeders for years because of the increased hair coat bloom which can be attributed to it. Comprehensive research has shown that there are further desirable qualities which enhance its use in beef cattle supplements. Even though it contains a lower percentage of crude protein than soybean meal, linseed oil meal satisfactorily replaces soybean oil meal on a pound-for-pound basis. Additional linseed oil meal is not necessary to make the two equivalent as protein supplements.

There is an apparent complementary effect when linseed oil meal and urea are combined to form the supplemental protein. Cattle fed this combination have gained more rapidly and sold for a higher price on foot than cattle fed soybean meal. This outward effect was borne out upon examination of the carcasses because those from cattle fed the linseed oil meal and urea combination of supplemental protein graded higher and sold for more money.

v v

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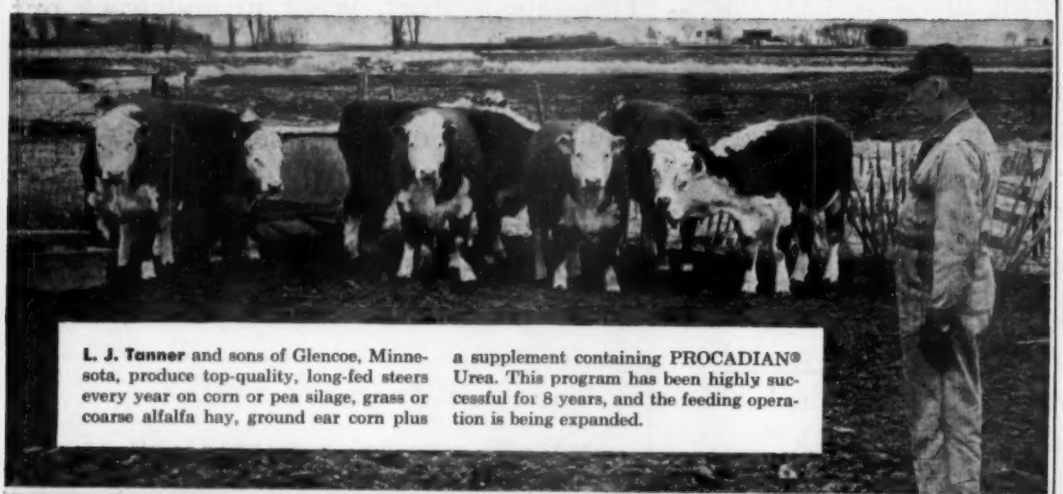

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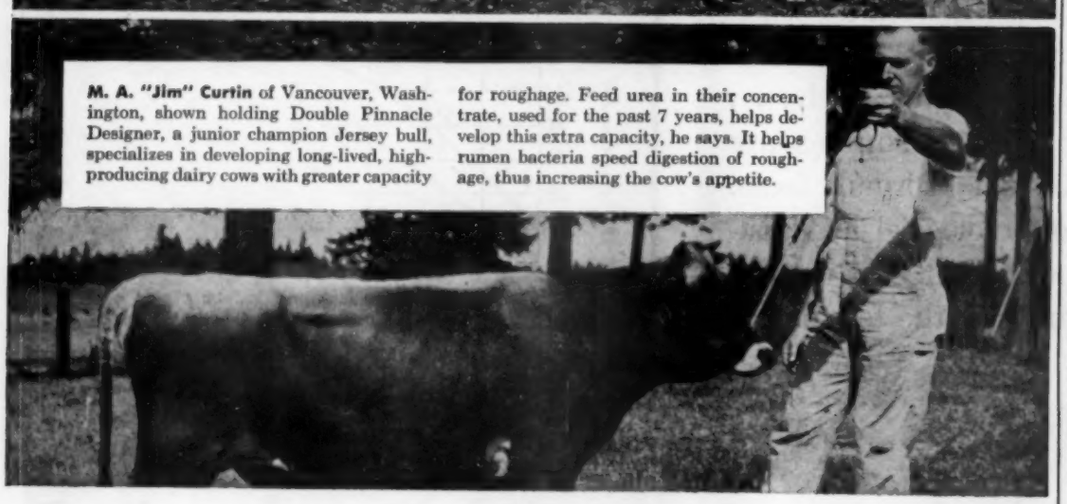

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Energy Metabolism Discussed at First Ruminant Nutrition Conference

COLLEGE STATION, TEXAS—A report on the First Ruminant Nutrition Conference, held in conjunction with the annual meeting of the Federation of American Societies of Experimental Biology, was given in the Texas Feed Service Report issued by the Texas A&M College Agricultural Experiment Station.

Those at the conference, the first of its kind ever assembled at annual federation meetings, discussed the topic, "Energy Metabolism," with Dr. W. H. Pfander serving as chairman.

The text of the report, by Paul F. Parks, research assistant in the Texas A&M department of biochemistry and nutrition, follows:

Dr. W. P. Flatt, U.S. Department of Agriculture, presented an international survey of the laboratories which now possess equipment capable of carrying out large animal calorimetric studies. He reviewed the progress being made in these laboratories and the problems involved in investigations of this type. Dr. Flatt indicated that many of the investigators in this field have abandoned the use of the direct calorimetric equipment as evidenced by the inactivity of the calorimetric chambers at the long established energy laboratories of Pennsylvania State University and the University of California. However, the work is being pursued actively by investigators in Europe and by Dr. Flatt's group at Beltsville, Md.

Dr. L. E. Lloyd, MacDonald College, discussed the problem of evaluating the nutritive value of forages. He contended that any evaluation used must have at least two attributes—relative simplicity of execution and a high degree of accuracy—to be of practical use to workers in the forage evaluation field. Dr. Lloyd offered as one such measure his Nutritive Value Index (NVI) which is related to the percent digestibility of energy and relative intake. The following formulae are used to calculate NVI:

$$\text{NVI} = \frac{\text{Relative forage intake} \times \%\ \text{digestibility of energy}}{100}$$

$$\text{Relative forage intake} = \frac{\text{Observed daily voluntary forage intake} \times 100}{\text{Standard forage intake}}$$

$$\text{Standard forage intake} = \frac{80\ (W^{.75})\ \text{grams per day}}{\text{kg}}$$

The standard forage intake relates intake to metabolic size.

High Correlation

Dr. Lloyd's data indicated a high correlation between relative intake by animals and 12-hour artificial rumen (in vitro) fermentation, digestibility of energy in the animal with 24 hours in vitro fermentation, and NVI in the animal with 12 hour in vitro fermentation. The relationship of fermentation rate to the foregoing factors is of considerable interest as is the effect of intake on nutritive value. An example of the use of NVI can be given by presenting the data for two forages: birdsfoot trefoil had a relative intake of 99, digestibility of energy of 63% and an NVI of 71; alfalfa had a relative intake of 79, digestibility of energy of 63% and an NVI of 50. The effect of intake is seen readily when this empirical formula is applied.

Some very interesting aspects of rumen fermentation were reported by Dr. R. E. Hungate, University of California. Experimental evidence presented by Dr. Hungate indicated strongly a negative relationship between rumen retention time of feed and the rate of fermentation by the rumen contents. There also seemed to be some relationship between breed of cattle (also possibly acclimation) and fermentation rate. A study of these factors by Dr. Hungate with native Zebu and grade English breed cattle in Africa points up this relationship. The grade cattle had an average rumen retention time of 37.3 hours and an average fermentation rate of 144.8μ/ml. of CO_2/gm./hr. as compared with the Zebu's average retention time of 34 hours and average fermentation rate of 170.7μ/ml. of CO_2/gm./hr. The average dry matter digestibility for the grade English breed cattle was 65% and for the Zebu, 67.7%.

One of the most intriguing biochemical problems in current ruminant nutritive studies, especially as related to the metabolism of the short chain fatty acids, is the turnover time of the volatile fatty acids in the blood. Of special interest is the apparent rapid disappearance of acetate from the blood. Dr. B. C. Johnson, University of Illinois, presented several enlightening findings on this problem. Dr. Johnson and co-workers found the half life of acetate in the blood was only 2.1 minutes, and the turnover time of the entire acetate pool was 3 minutes in duration.

Dr. H. O. Kunkel, Texas A&M College, reviewed the possibility of certain peculiarities in ruminant enzyme systems. He pointed out that the blood sugar level of newborn ruminants paralleled that of non-ruminants, however the blood sugar level drops as the rumen becomes functional. Ruminants also show a greater resistance to hypoglycemia. Along with these factors, the ruminant seems to have a lowered ability to mobilize amino acids for energy purposes during fasting.

Perhaps the most unique of the enzymatic peculiarities in the ruminant is papillary growth within the rumen. Dr. Kunkel referred to the work of Warner and others which showed the development of the rumen epithelial was an adaptive mechanism. The rumen epithelical stands alone in its ability to grow due to the topical application of metabolites.

In summary, Dr. Kunkel pointed out that although there may be quantitative and qualitative differences between ruminants and non-ruminants in enzyme systems, the major differences probably are due to the type of metabolites utilized by the two types.

The members in attendance voted to reconvene during the same period in 1961 with Dr. Pfander again serving as chairman. The topic discussed will be "Nitrogen Metabolism" in the ruminant.

The conference indicates a significant trend in ruminant nutrition studies, especially the interest of biochemists and physiologists in basic studies of this species. It is logical to assume that conferences of this type will play a larger role in the future in formulating a common understanding among investigators.

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Big Mike Bjorklund, Fairmont, Minnesota, has been selling feeds for six years in Southern Minnesota. Mike usually begins his day at 8:00 AM, quitting at 7:00 PM. He works six days a week . . . putting in a good 11 hours a day. "I really push," Mike commented, "and many times feeders ask me to supper, and we sit around and talk until 9 or 10 in the evening."

Mike "guesstimates" that there are approximately 10,000 head of cattle in his territory. Of this number, Mike believes that some 70% are being fed stilbestrol during the time they are on feed.

"As I said before, my feeders really like Stilbosol because it gives them low-cost gains. From the time cattle are in the yards until they load out to market, the average daily gain runs around 2.4 and 2.5 lbs. This is average," Mike explained, "and includes both steers and heifers.

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Designing and Equipping a Custom Feed Mill

By Oak B. Smith
Wenger Mixer Mfg. Co.

EDITOR'S NOTE: In the accompanying article, Oak B. Smith, director of market research, Wenger Mixer Manufacturing Co., outlines considerations in designing and equipping a custom feed mill. Mr. Smith presented this material as a talk at the Feed Industry Management School, sponsored by the Ontario Retail Feed Dealers Assn., at the Ontario Agricultural College in Guelph.

Custom milling in the U.S. has grown to be an industry of tremendous importance to the agricultural community. Farmers have learned that they can generally make more from every acre of their land if the production of grains and roughages is marketed in the form of livestock, rather than as cash crops.

The manufacturers of formula feeds have acknowledged the importance of this movement and have developed supplements and suggested feeding programs to enable the farmer, with the assistance of the custom miller, to produce very satisfactory rates of gain on cattle, sheep and swine, and to produce dairy feeds which are doing a remarkable job in economic fluid milk production.

For my part, I think that the custom milling service has a remarkable future, and that the current trend towards feeding through self feeders is hurrying this decentralization of the feed industry. The advent of bulk deliveries has also accelerated this trend.

For what it's worth—a word of caution. I've explained my own conviction that custom milling is here to stay, and that it performs a useful and economical service to agriculture. However, in my opinion, the one hazard on this rosy horizon would be, and has been, the tendency on the part of a few custom millers to formulate feeds off the cuff, without proper nutritional backgrounds and without developing proven feeding programs. As I look at it, the concentrates and feeding programs developed for the custom milling service by the manufacturers of formula feeds offer the best way that most custom shops may economically serve the farmer. Off-the-cuff feed formulation and unproven feeding programs present a risky problem. The nutritional and management programs developed by the manufacturer of formula concentrates look to me like a fine insurance policy for the success of custom milling.

With that off my chest, let's look now at how we might go about the design of a country feed mill.

Custom Milling

First—what is custom milling? In its early days, the custom miller simply offered a grinding service for grains. Then, with the help of the concentrates supplied by the formula feed manufacturer, the custom miller blended these concentrates in the right proportion into the grains and/or roughage that the farmer brought to him. With the advent of bulk molasses terminals spread over wide areas, the custom miller added molasses mixing. Finally, in recent years, pelleting in the country feed mill has come into its own. The advantages of pelleting had previously been substantiated by our agricultural colleges and our feed manufacturers. If pelleting was worth its cost, and if custom milling was an economic trend in our agricultural community, it followed that sooner or later the custom miller would offer a pelleting service.

Next, the advent of self feeders for all classes of poultry and livestock, plus the coming of age of the milking parlor, plus the high cost of farm labor, led to the next natural step in the custom milling service—the delivery of complete feeds in bulk. Grain banks, and even hay banks, have also come into their own in custom milling in many places, and, in my opinion, will develop further.

Let me say at the outset that a complete custom milling service as described here—receiving of the farmers' grains, grinding and cleaning, mixing them with concentrates, blending in molasses, pelleting and cooling, bulk deliveries and a grain bank—represents a very considerable investment—an investment which is higher than most custom millers can make at the outset.

Fortunately, a firm desiring to offer a custom milling service can do this job in steps, starting first with a reasonable amount of storage for grains, since practically all custom millers provide an elevator service for their customers' convenience. The next step in this plan would be the addition of a grinding and mixing service and, at this stage, in the development, concentrates can and frequently are received in bags. The next step would be the addition of a molasses mixer and packing bins. The final step in this program would be the addition, in some cases, of a pelleting service, and this is frequently coupled with a bulk delivery service for finished feeds.

Plan for Future

If the custom miller will decide, before he selects his site, and before he builds his building, what he wants to end up with, then this building program can be undertaken in steps, and the steps may be taken at intervals of a year or two. This will make his initial investment a moderate one, and each subsequent step in the process can be a moderate investment, as his business grows to warrant those subsequent investments.

But a step-by-step program takes planning, if it is to be successful. The building must be laid out to conform to the steps you want ultimately to incorporate into your business. While I have said that in my opinion pelleting and bulk deliveries in the country feed mill are a logical conclusion in a well-developed custom service, it may well be that the market in your particular area will not support either pelleting or bulk deliveries. Only you can decide this. When you have decided what you want ultimately to achieve in your business, then design a building initially to accommodate what you desire your business to be when you have concluded all the steps in your development program, even if all these steps are not to be undertaken for years.

With this basic design for what you want ultimately to achieve, your development program can be a systematic one. You need only to be sure that you don't allow any equipment installed anywhere in the step-by-step process to preclude the later installation of the additional equipment incorporated into your final plan. Far too many custom shops have grown like Topsy, without any real plans in advance, only to find, too late, that all the steps necessary to maintain their competitive position have not been incorporated in their plans. Therefore, design now what you want your business to be like ultimately, and then take step-by-step progression around that plan toward your ultimate goal.

Before describing a basic design, and these step-by-step additions to arrive at this goal, let's look at basic considerations of site selection and mill arrangements.

SITE SELECTION—Custom mills have appeared over the landscape in virtually every small country town in the U.S. and in many such towns in Canada. In locating such a business, it goes without saying that a market survey, to determine where the mill should be located, is a most worthwhile effort. This market survey should include also an appraisement of the competition and a decision as to what services, if any, need to be offered in order to take business

FIGURE 1. Basic Mill Including Building and Minimum Equipment—Scale, Dump Sinks, Truck Hoist, Drag, Hammer Mill, Ground Grain Bins, Storage Tanks and Elevator Leg

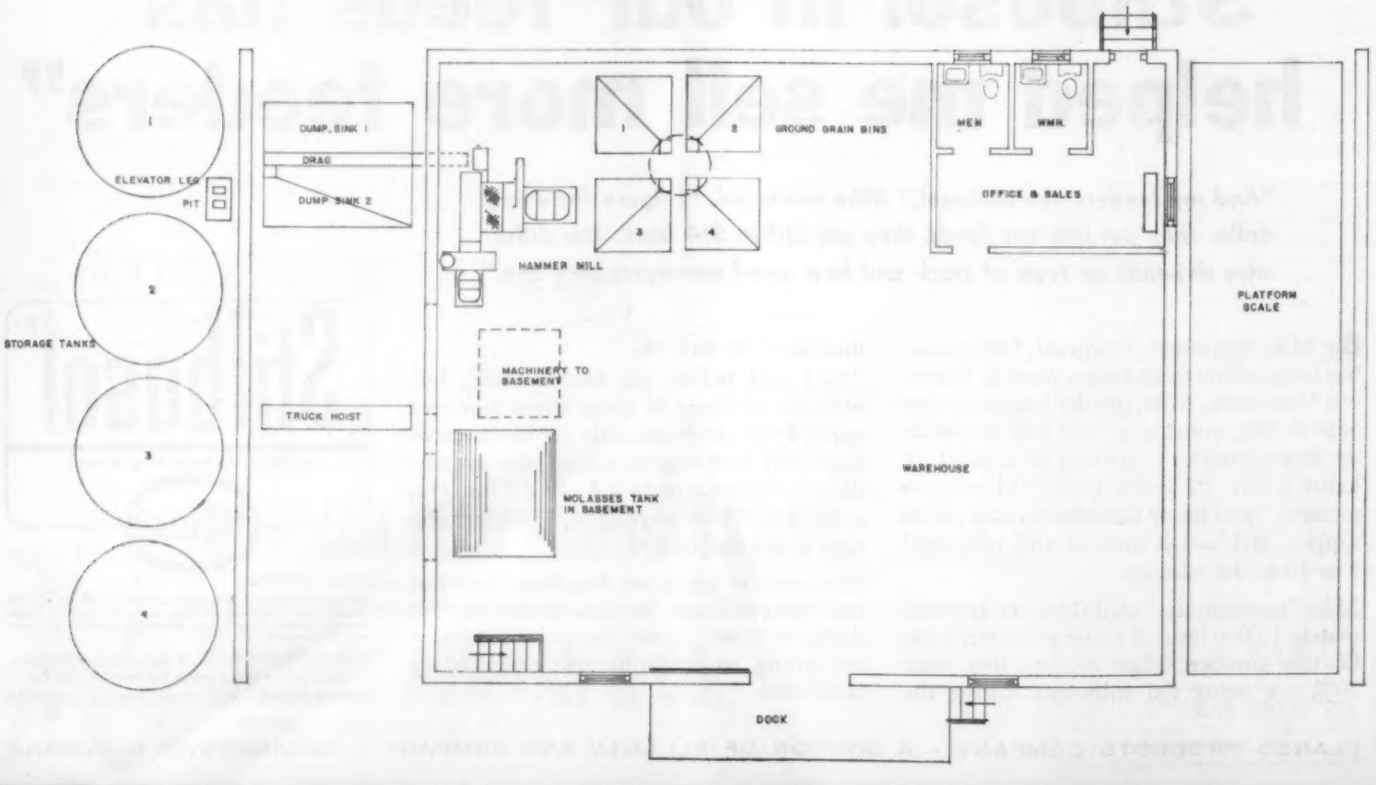
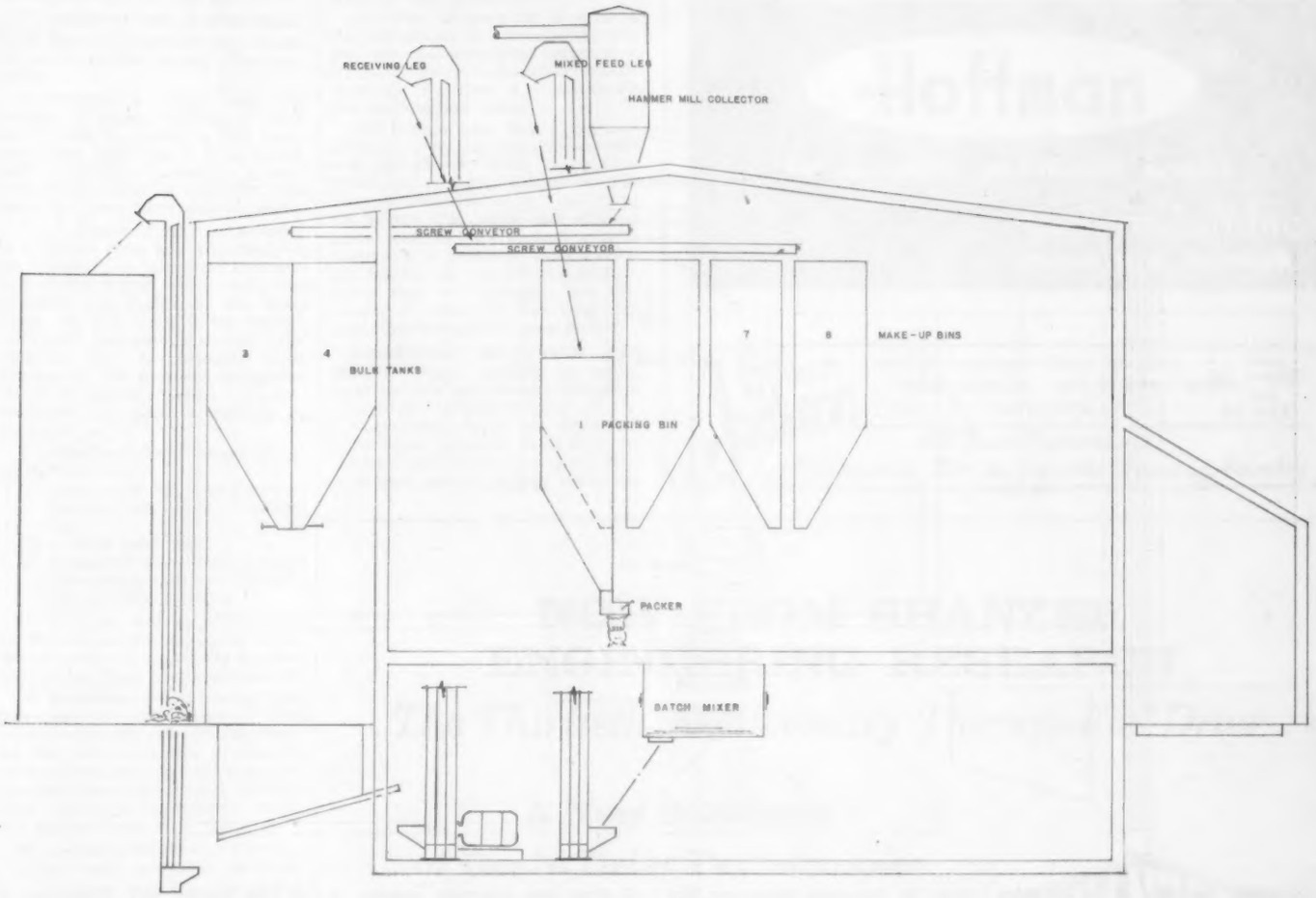


FIGURE 2



away fram an established competitor.

With these steps taken, the site itself must be selected. I believe some "do's" and "don'ts" of selecting your site might be offered.

(1) Do locate your mill with easy access to roads which will take the heavy trailer truck traffic, which most custom operations involve.

(2) If possible, locate it on a railroad siding.

(3) Have soil tests made by professionals. This will eliminate, for the most part, the problems which many mills have encountered of excessive footings costs, of unplanned excavation costs, and may even keep you away from wet basement problems.

(4) Do examine with the light and power company the availability of electrical power in the proper voltage at the site you have selected; check with them about costs incurred in transformers, lines and any limitations they may have about current loads across the line.

(5) Do check as to water supply and fire protection. These will affect your operation, insurance rates and your peace of mind.

(6) Do check all your neighbors around the intended site. If your neighbors object to trucks, grinding noises, dust, etc., you'll be better off to locate elsewhere.

(7) Do check the surrounding countryside for road limitations. We know one fellow who built a fine mill with a 5-ton load limit over a bridge leading to his site. He's still in business—somehow. Limitations on truck heights could prove equally perplexing for a railroad underpass close to your property.

List of "Don'ts"

As for the "don'ts"—I suggest that you:

(1) Don't fail to check with your

FIGURE 3. Add Molasses Mixer, Mixer Bin, Grinding Bin and Packing Bin

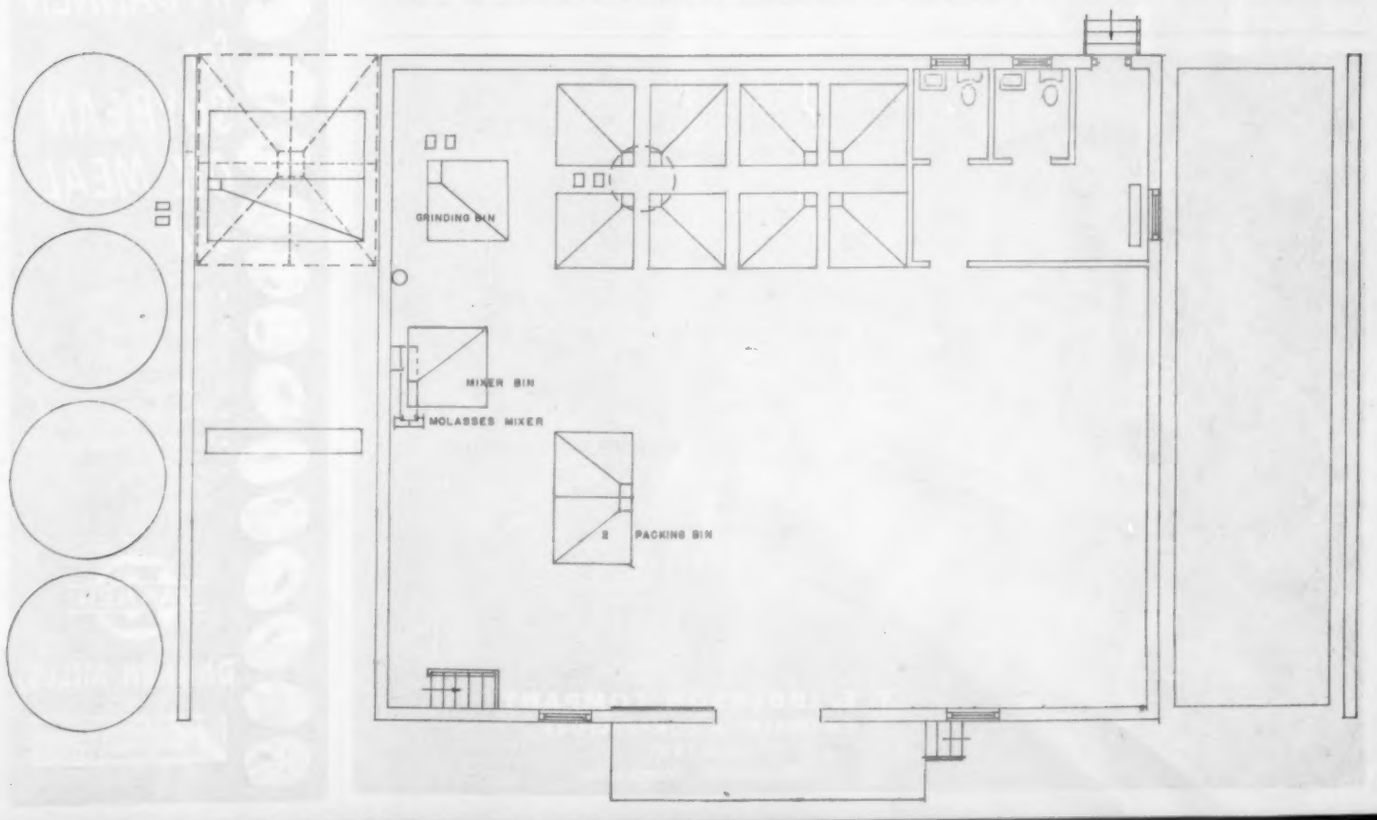
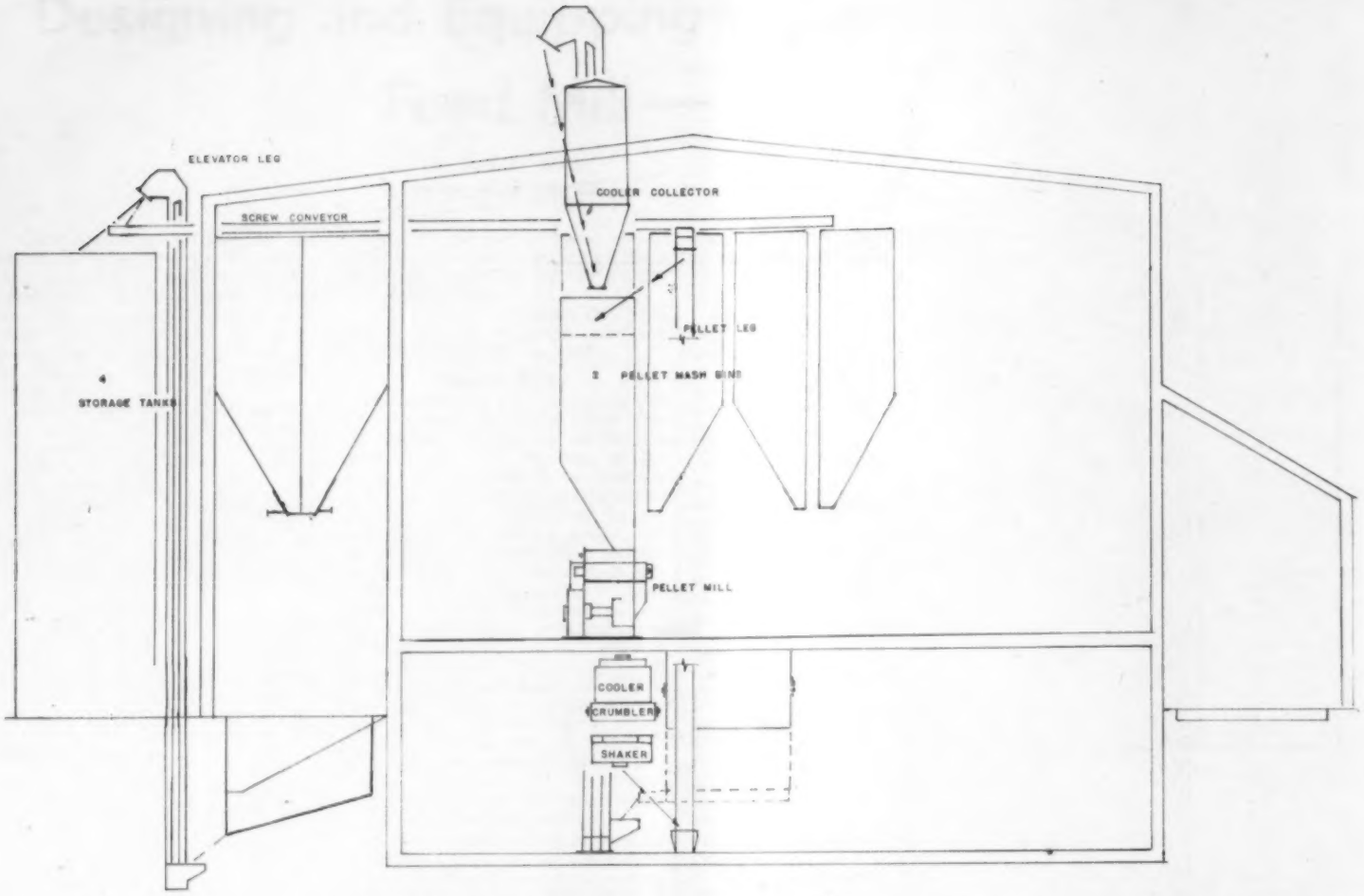


FIGURE 4



insurance company as to its rates for the site you select or for the type build ng you will build.

(2) Don't fail to have water supply analyzed. While we need minerals in our feeds, a similar requirement does not exist for the feed water for our boilers. Moderate levels of calcium, salts and minerals can be coped with, but not runaway levels.

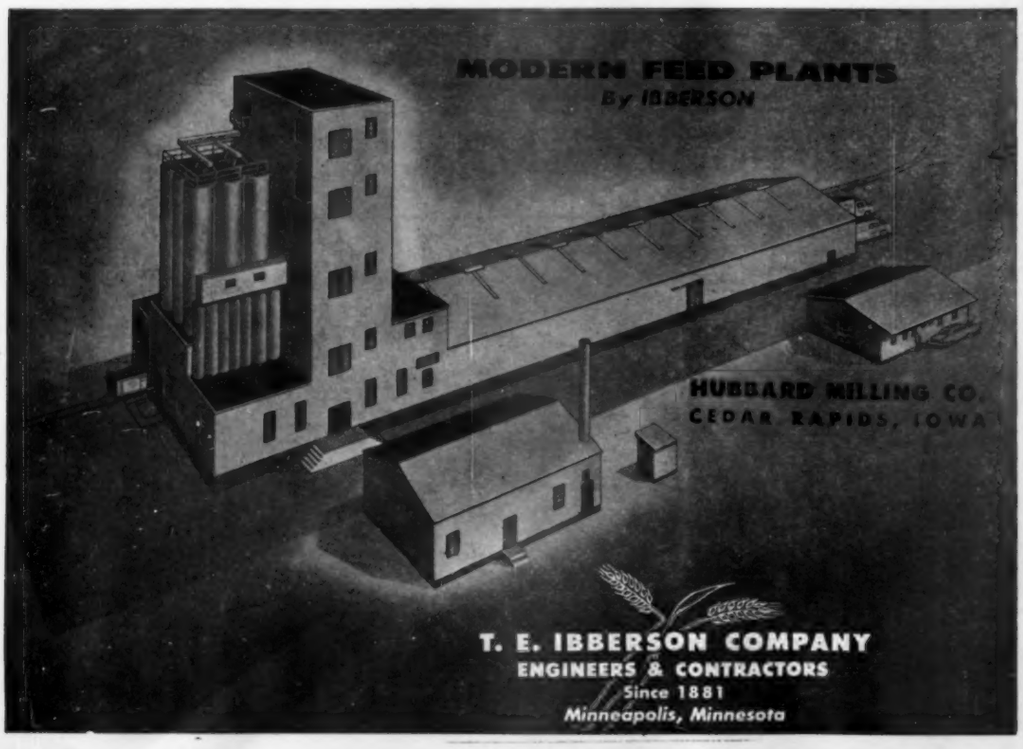
(3) Don't build on soil that drains poorly or not at all.

(4) Don't limit yourself so severely in space that you would have less than adequate turn-around for trucks, less than adequate dock facilities, less than adequate parking facilities or no room for expansion. Remember that the grain bank has come into its own in many places and the hay bank looks promising in others. Both require space, and considerable space. Warehouse requirements can also be underestimated, but such a problem can be quickly solved with prefabricated buildings, if space is available. Adequate parking area for trucks, visitors' cars, and employees' cars is important. Remember that your customers will buy many things, besides feeds, if you make it easy for them to do so—fertilizer, barbed wire, field fence, nails, pesticides, veterinary products and even bulk molasses. All of these are important sources of revenue for the custom miller.

(5) Don't forget that a farmer lives with mud. During much of the year, he's up to his knees in it. When he comes into town, he doesn't want to drive through it or wade through it to conduct his business. Select a site with good approach roads and roads wide enough and free enough of restrictions that he can patronize you.

BASIC ARRRANGEMENT OF THE MILL

(1) Layout driveways around the mill which will permit easy access to your scale, unloading pit or pits and to your loading dock. Remember, if you go to bulk deliveries, that you'll want to install these bulk tanks over your driveway and preferably above a truck scale. I like a circular driveway arrangement, with truck scale in front and a drive-through covered area in the back above your unload-



ing dump sink and with loading dock for bagged feeds on one side.

(2) Build your mill at dock height.

(3) Build loading dock long enough to handle several trucks simultaneously.

(4) Provide a truck scale big enough to handle the largest truck you'll want to handle. A few years ago, many mills put in 40-ft. scales, only to find them inadequate. A minimum 50-ft. scale is desirable, and many mills now insist on 60-ft. scales.

(5) A basement isn't a necessity in a custom shop, but it certainly is an advantage to have your hammermill, molasses tank, pellet cooler and crumbler and shaker in the basement. As you know, some custom mills offer corn shelling service, bean cleaning, etc. A basement large enough for this auxiliary equipment should be provided, where it is contemplated that such components be installed.

(6) Your receiving driveway should be equipped with:

(a) Dump sink and drag feeder to hammermill or to receiving leg;

(b) a truck hoist, and

(c) a separate dump sink is sometimes desirable if you are offering an elevator service.

(7) Footings and structural steel for building and for any tanks should be engineered by individuals qualified to appraise these load requirements.

(8) Remember, when pouring footings, that you may desire to build initially with only a few interior bins, but that your expansion in years to come will also include additional b'ns. Footings should be poured initially, when you build the building, which will support these later bins.

(9) Bin decks for interior bins may be either inside or outside the building. Whichever type you elect should provide for top access into b'ns, and manholes equipped with dust free covers should be planned for all bins.

(10) All spouting for soft feeds (mill feeds, mixed feeds and ground grains) should carry a pitch of at least 60° below the horizontal. Whole grains and hard pellets will flow generally over 50° down spouting, but soft pellets will handle better with 60° spouting.

(11) All bins for soft feeds, if square or rectangular bins, should have two vertical sides at right angles to each other, with the other two sides hoppered at 60° below the horizontal. Bins should have no interior ridges which might cause bridging.

(12) Very light materials, such as ground hay, dehydrated alfalfa meal, beet pulp, etc., should be handled in live bottom bins wherever possible, since such ingredients are most prone to bridge.

(13) In determining the pitch over which any material will flow freely in a spout, or in a bin, I like to follow the old law of angle of repose for that material, plus 20° in a spout, but plus 25° in a bin—remembering the previous stipulation for two vertical sides on a rectangular bin, with these two vertical sides at right angles to one another. While custom millers are not often bothered with binning many materials, it is a fine rule if you will design all your down spouting and bins to handle the most troublesome material you contemplate handling. This will minimize a wealth of flow problems.

(14) Circular bins can and may be used inside a mill, but with the same general rules for straight sides and pitch of hopper pertaining. Soft feeds can and are being easily handled in a properly designed round bin. Many of these are in use inside of mills, as well as outside.

(15) Flow of materials all through the mill should be carefully planned, and the mill should be designed to eliminate every foreseeable impediment to easy flow of all materials you contemplate using.

(16) Design your mill with work areas for receiving and stowing bagged ingredients, bulk ingredients, grains and molasses. Remember that research into costs of mill operations has shown that more than 49% of labor costs in the country mill is consumed in receiving, warehousing and loading out the finished product. Every bit of ingenuity you can muster to minimize this labor expenditure is money in your pocket.

EQUIPMENT SELECTION AND SIZING—When deciding on equipment for your mill, several considerations should be kept in mind.

Hammermills may be either the 1,800 r.p.m. granular grind type, or the high speed 3,600 r.p.m. type. Both do a good job of particle reduction,

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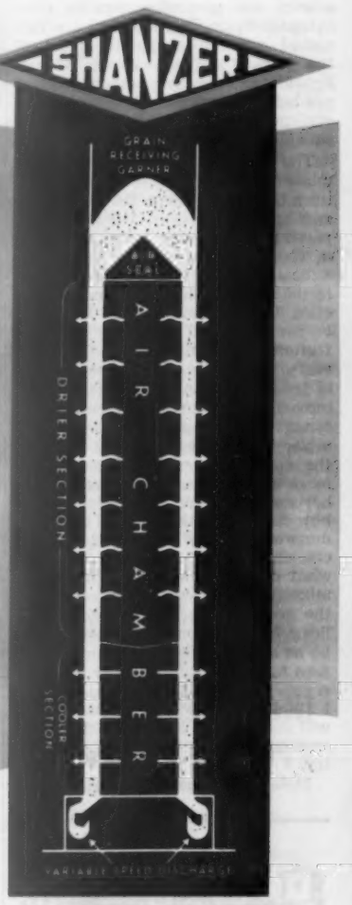
To the owner and operator of grain drying machinery, this is like getting "twice" the drier for every dollar invested.



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with the slower speed mills generally furnishing a sharper, less floury grind on corn which some custom millers believe to be advantageous in preparing laying mashes and scratch feeds. Whichever type of mill you select, I believe you'll benefit by installing a mill with a quick changeable screen device. Many manufacturers equip these screen changers with extended screen changer controls, making quick screen change possible from the floor above the hammermill. It's important, when installing a hammermill, to follow the manufacturer's instructions as to size of ducts, size and configuration of dust collectors, and to use only one elbow between fan and collector, and a long sweep reinforced elbow at that. Drag from dump sink should be equipped with variable speed drive. Hammermill should be equipped with automatic trip relay which will automatically stop drag feeder anytime the hammermill motor becomes overloaded.

Hammermills are built with two types of feeding devices—a crusher feeder for grains, or with a wide mouth opening into the hammermill. A mill equipped with a crusher feeder is recommended if you plan to process only grains and soft feeds. However, if you think it likely that you will be grinding hay, your hammermill should be selected as a high speed mill, equipped with a wide feeder throat.

Mixing

Batch mixers may be either the vertical or the horizontal type. The vertical offers two advantages—being lower in price than a comparable quality horizontal, and the ability to charge the mixer at floor level without installing the mixer in a basement. In my opinion, the vertical mixers are generally capable of a satisfactory mixing job, and are furnished wth either single spiral or the quicker loading twin spiral configurations. Several manufacturers are building vertical mixers in special configurations to handle ground hay satisfactorily.

The disadvantage of the vertical mixer is that it is a little slower in its mixing cycle than the horizontal, and, more important, is not so completely self cleaning. I doubt that you in Canada have had the amount of difficulty which we are experiencing in the states with federal control officials. On our side of this fine open border, the Food and Drug Administration is examining very carefully every possibility for contamination of feed with even minute amounts of some medicated trace ingredients or other contaminants. When a batch mixer is not completely self-cleaning, the contamination problem becomes more acute. Please note that not all horizontal mixers are self cleaning, but many of them will discharge more completely than vertical mixers, and for that reason, I am somewhat inclined towards the horizontal mixer, even for custom operations, at the present time. While I do not believe this contamination problem to be as acute as the proponents of the zero tolerance clause in our own U.S. regulations would lead you to believe, I think it likely that contamination will continue to be one of the major problems confronting the feed industry.

Molasses mixers may be either high speed mixers or may be the slow speed twin shaft type. I believe it's safe to say that the vast majority of molasses mixers in use in custom shops are the high speed type. Generally, the high speed units will do a better job in blending molasses without balls into the feeds than will the slow speed types, and will often admit of higher levels of molasses application. Generally, the high speed type does not build up any cake of feeds on the shaft or paddles. This minimizes contamination problems. Both the high speed and slow speed mixers will build up cake on the inside of the mixer shell, so you'll want to be sure, whichever type you select, that the mixer can be quickly and thoroughly cleaned in a short period of time. The slow speed mixer has one advantage over the high speed type, however. Where rolled or crimped grains are used in your feeds, the high speed mixer will break up some of these grains, whereas the low speed mixer will permit greater product identity. Whether part of the rolled grains is broken or not is of no importance from the nutritional standpoint, or from the palatability standpoint, but it can be important from a doubting customer's standpoint. On balance, however, we believe that the advantages of the high speed mixer outweigh the advantages of the slow speed types.

Molasses may be applied cold or hot. The optimum mixing temperature for molasses is 95-105° F., and molasses applied at this temperature will be more completely absorbed than molasses applied cold. I should point out, however, that custom mills in many places, including cold climates, are applying cold molasses successfully to their feeds. I have noticed, in travels around Canada, a number of molasses tanks above ground. I must say, if I were operating a feed mill in Canada, that my molasses storage tank would be in a basement or buried in the ground. A molasses tank, buried below the frost line, will maintain the molasses temperature surprisingly close to the temperature at which it was loaded into that tank.

Arrangements for molasses storage tanks and molasses control equipment for such installations, include a system operated with a storage tank, pump, pressure relief valve, and molasses control valve; another is operated with a metered flow pump developed particularly for close control of molasses applications.

Molasses mixers may be mounted inside of the mill, where molasses feeds are to be delivered only in bags; or where deliveries in both bags and bulk are contemplated, the molasses mixer may be mounted at a high point in the mill, close to the driveway. In this case, the molasses mixer, with extended and reversible feeder, will make bulk deliveries practical for molasses meal feeds or for mixed feeds without molasses.

Elevator legs should be carefully sized to give you adequate capacity

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Economy is the big reason why this Illinois dairy farmer buys Kaff-A Milk Replacer. He reported savings of 60% over the cost of whole milk to a visiting Kraft Flying Farm Reporter.

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3 IMPORTANT BUY-WORDS

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The answers are economy, better production, animal health. These are the same answers heard by the Kraft Flying Farm Reporters from actual users coast to coast.

These are the *buy-words* stressed in the feeding reports (brief samples above) which farmers are reading in Kraft advertisements. These are the *buy-words* you can stress daily—to build your Kraft sales and profits.

Economy, production, health . . . they're built into every package of Kraft feed you sell. They're also built into all of Kraft's complete line of milk by-product mixing ingredients.

for the rate of handling per minute—not the rate of handling per hour—which you will require. Legs for receiving and for handling soft feeds or mixed feeds should be high speed legs (300-400 ft. per minute) and normally will be loaded on the down side, but may in some instances be loaded on the up side. Dust problems and blow back will be minimized, however, when such legs are loaded on the down side.

Elevator legs for pellets should be slow speed legs—120-140 feet per minute—should be equipped with oversized cups, closely spaced—approximately 6-7 inch centers. Pellets should be loaded into the up side of elevator legs.

Pelleting

As for pellet mills, there are several available and satisfactory types. These include flat beds and pellet mills equipped with vertically mounted ring type driven dies with fixed but adjustable rolls.

There are several advantages, in addition to the capacity advantage, of vertically mounted driven die type pellet mills. These include more even spread of pellet mash over the face of the die, easier die change, better accessibility to rolls and lubrication points and improved maintenance characteristics.

A number of pellet mills are now offered equipped with built-in high speed mixer-conditioners in which molasses and steam (as well as other liquid feed ingredients) are applied to pellet mashes. Liquids, when applied in the conditioning high speed mixer built into a pellet mill, should be applied at their optimum mixing temperatures, at uniform rates of flow. Molasses pellets can be produced containing from 1% to as much as 30% molasses in a ring-type pellet mill, dependent upon absorbency of ingredients. One ring-type pellet mill is also available which is supplied with an optional pellet extruder to produce high molasses pellets (30-50% molasses). Molasses feeds in meal form can also be produced on this equipment, independent of the pelleting mechanism.

Pellet coolers are supplied in both vertical and horizontal types. Vertical coolers may be used where only small pellets are to be produced (3/16 in. or 5/32 in.) but sometimes have proven less satisfactory for cooling larger pellets, in which case it is desirable to increase retention time within the cooler. Where there are larger than 3/16 in. pellets to be produced, or where there are problems with fines due to the cooling operation, or where it is desirable to convey while the pellets are cooled, or where height limitations exist, the horizontal cooler is the preferred type.

For any type of cooler, it is very important to equip the cooler with the dust collector and ducting recommended by the manufacturer of the cooler. Dust collectors which are too small, or ducts too small or improper duct arrangements can all cut down on the drying and cooling capacity of the cooler. For example, a good cooling set up will generally produce static pressures of only 6 or 7 in. of static pressure across the system. If the ducts are too small, or the dust collector too small, it has happened that static pressures of as much as 14 or 15 in. have been created, thus cutting the air the fan can move by approximately one-third. This, of course, represents an effective reduction in drying and cooling capacity by one-third to one-half.

ARRANGEMENT OF EQUIPMENT WITHIN THE CUSTOM MILL—Let's start with the first step in the progressive development of a custom milling service—basic layout for a custom shop.

Figure 1 shows one workable arrangement for this basic mill. This shows the basic equipment and building. The size of the building will depend on your estimates of storage requirements for bagged ingredients and bagged finished feeds. The building size shown here is 50 x 60 ft., which allows only a bare minimum of storage capacity for incoming bagged ingredients and little floor space for bagged finished feeds.

Basic equipment included in Figure 1 includes a 50-ft. truck scale, a truck hoist and two dump sinks. One of these dump sinks (the one farthest north) is equipped with a drag feeder with variable speed drive on the drag feeder. The other dump sink is a hoppered bottom dump sink, which would feed on elevator leg to your storage, which would be on the west side of this driveway. A hammermill with its dust collector and four inside hoppered tanks for ground grains are included. A six-way distributor under the hammermill collector will feed the four ground grain tanks, plus a spout direct to trucks in the driveway. This basic equipment will make it possible for you to offer only a receiving and grinding service. You will note that a molasses tank has been included in this layout, and that has been included in this first step of the progressive building of a custom milling service only because I am suggesting that for Canada the molasses tank should be installed in the basement. If this is to go in the basement, it will have to be installed when the mill is built, even though a molasses mixing service is not to be added until later in your step by step development.

The second step in this progressive development is the addition of equipment to offer a minimum custom milling service. This includes the addition of a receiving leg, four additional make up bins, a weigh buggy for proportioning each ingredient, plus a horizontal batch mixer (located in the basement so it may be floor charged from the weigh buggy),

CTION" "HEALTH"

this Indiana poultryman buys starting to feed Pex, he pro- large eggs.

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GRAIN INSPECTION BUILDING—The Memphis Board of Trade is completing plans for a new grain inspection building to be built on Presidents Island. A drawing of the building is shown. Arthur A. Williams, executive vice president of the organization, said the cost will be around $50,000. R. F. Creason & Co., general contractors, will construct the building on part of 4.62 acres bought by the board. The building will replace the inspection department at 808 Riverside Drive. Estimated completion time is Sept. 1.

a platform scale for weighing ingredients received in bags, a mixed feed leg, and four bulk finished feed tanks over the driveway.

In addition, a screw conveyor will be added to convey soft feeds from the receiving leg to make up bins No. 5, 6, 7 and 8. (Figure 2)

A down spout from the 6 way distributor under the hammermill collector will be added, so you can divert ground materials to these additional makeup bins through this screw conveyor. A second screw conveyor will be installed to convey mixed feeds from the mixed feed leg to the bulk finished feed tanks over the driveway.

Add Packing Bin

A packing bin will also be added at this time, this bin to be fed by down spout from the mixed feed leg. The packing scale which you select for this bin will be determined by the amount of feed you think you will be packing in bags. There are several small and good gross weighing scales, which are quite satisfactory for custom operations where the rate of packing is to be relatively slow (4-5 bags per minute). For improved rates of packing, at least one of these manufacturers is offering a gross weigher equipped with a belt feeder. When this belt feeder weigher is operated by foot pedal, and equipped with a sewing belt, two men can pack 10-12 bags per minute. It is recommended that the hoppered bottom of the packing bin shall be high enough to permit the later addition of a second packing bin along side this first packing bin, with both packing bins equipped with rack and pinion slide gates and both bins feeding the same packer, if this belt feed packer is used.

Step No. 3 in your planned development program is illustrated in Figure 3. In this step:

(1) We add a bin for a molasses mixer. This bin will be fed with mixed feeds from a down spout at the discharge of your mixed feed leg.

(2) We add a high speed molasses mixer over the driveway, so that mixed molasses feeds may be spouted directly to trucks, or may be conveyed by belt back inside the mill to packing bin No. 2. It should be noted here, that molasses mixers are available which are equipped with reversible extended feeder, as previously shown, which will permit you to deliver mixed feeds to the bulk truck without molasses application.

(3) Add packing bin No. 2 and a belt conveyor to convey molasses feeds to packing bin No. 2.

(4) Add a molasses pump and proportioning controls and meter.

(5) A grinding bin for whole grains should also be added at this stage in your development program. This will permit you to elevate a load of grains quickly from your dump sink, which will leave your dump sink free for the next truckload of incoming grain. This grinding bin should be equipped with a percentage feeder, if the hammermill you have selected is a wide throat hammermill for grains and hay, since most such hammermills are usually not fitted with adjustable feeders. If the hammermill you have selected is equipped with an adjustable crusher-feeder, no percentage feeder will be required under this bin.

Pelleting Service

The last step in this development program is an optional one to be made by those custom millers desiring to offer a pelleting service. (Figure 4) For those firms desiring to add a pelleting service to their custom milling operation, the following equipment will be added:

(1) Two pellet mash bins. These pellet mash bins will be equipped with rack and pinion slide gates, and will be fed by down spouts from the mixed feed legs.

(2) A ring type pellet mill equip-

(Continued on page 61)

Pilch Breeders EARN 84 44/100¢ per pullet MORE than WHITE ROCK AVERAGE

In 1959 Maine PRODUCTION and BROILER TEST

19½ month Lay Full Fed Program

13th MAINE PRODUCTION AND BROILER TEST
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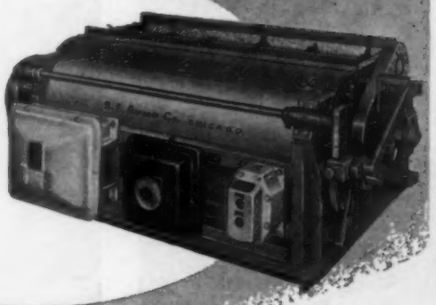
Don't lose production time...

control material flow



DRAVER FEEDERS

available with automatic controls

Avoid overloading of hammer and attrition mills, sifters, mixers, and other production machines, by using Draver Feeders to control the flow of bulk materials. Machine choke-ups can cause costly downtime and reprocessing, perhaps excessive wear on the equipment. Dravers give you low cost protection against these production losses . . . assure steady production at most efficient capacity.

There is a standard Draver Feeder to feed accurately most any bulk material, at rates from ounces to thousands of pounds an hour. Timing controls—such as shown on the Style "AA" Draver Wing-Type Feeder illustrated above—are available for feeding preset amounts at automatic intervals to continuous processes.

What is your bulk feeding problem? Send information on your requirements, and our engineers will give you details on a Draver Feeder that will save you production time and money. There is no obligation.

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Engineers and Manufacturers of Equipment for the Milling Industry

1310 South Cicero Avenue, Chicago 50, Illinois

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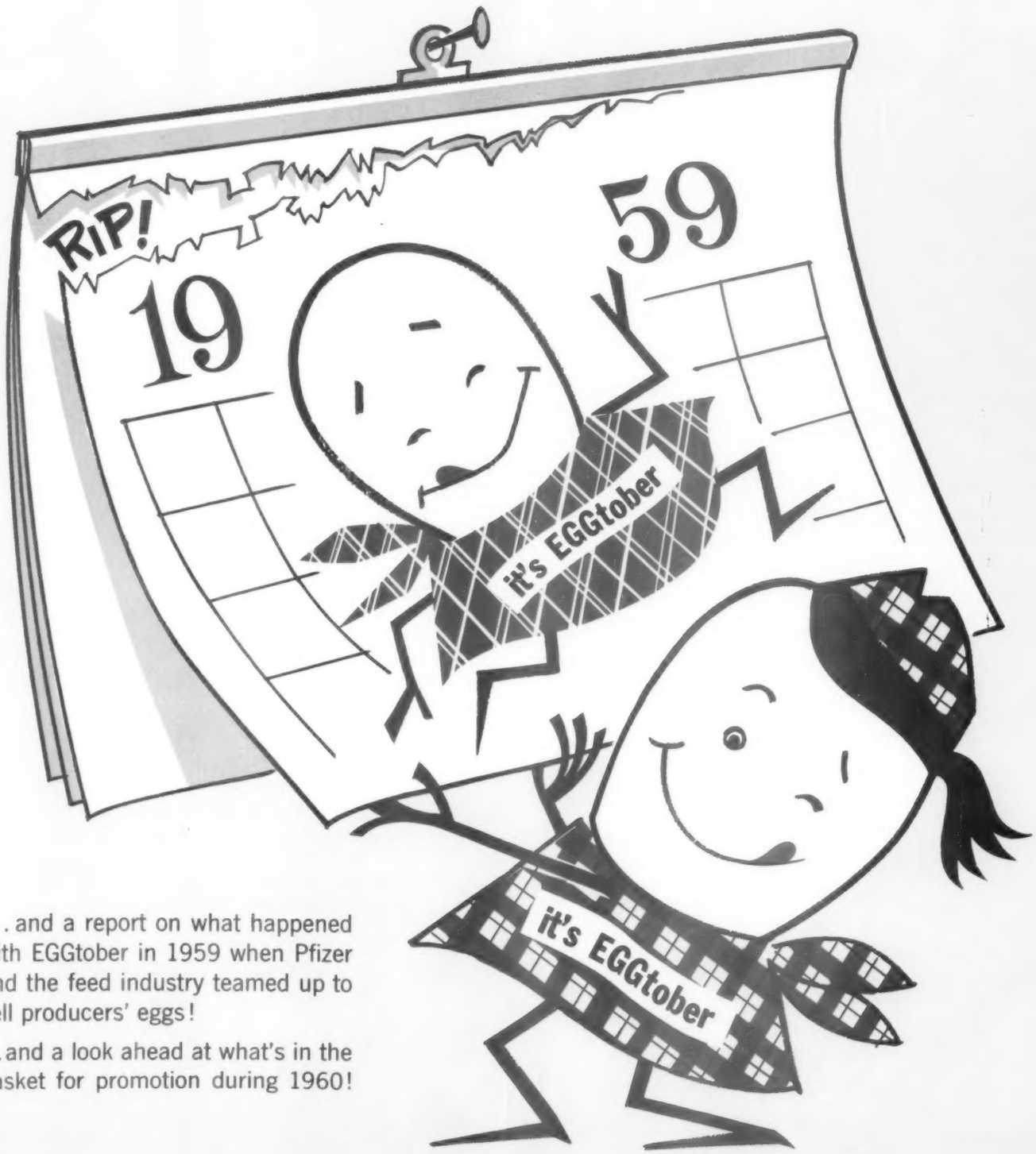
Dallas 2—J. B. WILLIAMS—1026 Young Street

One good promotion hatches another...

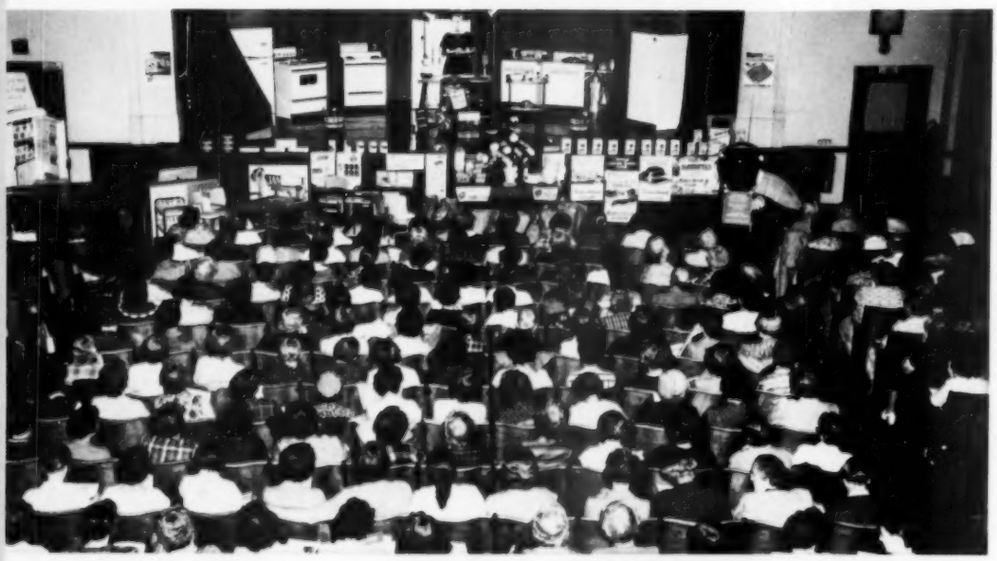


...and a report on what happened with EGGtober in 1959 when Pfizer and the feed industry teamed up to sell producers' eggs!

...and a look ahead at what's in the basket for promotion during 1960!

Here's what hap

The industry helped sell EGGtober for your customers' benefit . . . promoting it to consumers as the time to buy more eggs—the low-cost, high-value protein food. Spearheaded by Poultry and Egg National Board, the EGGtober sales spectacular covered the country with ideas, promotion and action. Here are some specifics:



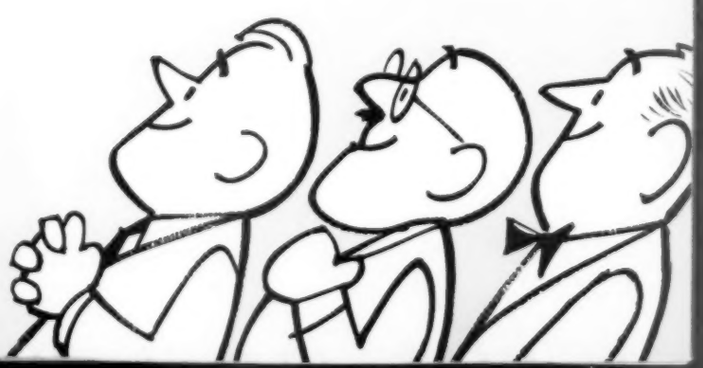
The list of EGGtober activities was long . . . 100 egg-cooking schools were attended by more than 60,000 people . . . emphasis was placed on eggs in metropolitan newspapers, and on and on . . .

Miss EGGtober represented the industry nationally in support of eggs, including her headline-making luncheon for the U.S. Secretary of Agriculture Ezra Taft Benson and his family.

and here's wha

There's going to be more of the same this fall during October . . . only bigger and better.

Poultry and Egg National Board, the feed industry and Pfizer are already developing plans for this fall's EGGtober promotion . . . putting the word EGGtober and its power to work at the consumer level.



ppened in 1959...

Over 8,000 grocery stores joined the task force with EGGtober specials on eggs. Reports: Substantial increases in egg sales.

A month-long egg-laying contest was held on Chicago's State Street with the hens named for columnists.

Local contests were held for Miss EGGtober. Winners actively promoted eggs in their areas during entire month of October.

at's cooking for '60

This consumer promotion takes off from the high point reached last year and builds on . . . with additional promotions, egg sales, consumer contests and many other public relations activities.

It's still too early to say just what all might be done because some of the most exciting ideas are still being worked out.

But no matter whatever extra promotional schemes do come out of the basket, there's going to be greater impact on consumers than ever before.

Just what will EGGtober do for you?

It'll give you a perfect opportunity to be in with a proven public relations program . . . and what's good for your customers is good for you.

Eggs are a food too good to be complacent about. There's hardly anything so good to eat that's so good for you.

People should be eating more of them . . . and will, if they're told about them over and over . . . if they're excited by the prospect.

That's the job last year's EGGtober was designed to do . . . and it worked, from every report.

That's what EGGtober is going to do this year.

Along with the year-round promotion by Poultry and Egg National Board, and other organizations, EGGtober is helping reawaken the public to the magic of eggs.

How's it helping you?

Well, the egg producer's future looks brighter when the public's eating his eggs.

A happy producer is a better customer.

And you know what? Maybe that laying feed sales chart will climb in October if your customers find out what you're doing for them.

That's EGGtober.

Chas. Pfizer & Co., Inc.

630 Flushing Ave., Brooklyn 6, N. Y.
7600 Ambassador Row, Dallas 7
230 Brighton Rd., Clifton, N. J.
6460 W. Cortland St., Chicago 35
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ped with a high speed mixer, and molasses conditioning feeder and a molasses metering pump. An optional high molasses pellet extruder is available for this mill where high molasses pellets (30-50% molasses) are desired.

(3) A pellet cooler of the proper size for the capacity of your pellet mill in the largest size pellets you will produce.

(4) A pellet crumbler—optional.

(5) A two-screen shaker to scalp off overs, and to take out fines.

(6) A pellet leg to elevate scalped pellets or crumbles to

(a) packing bin No. 1 or

(b) to additional bulk tanks to be installed above the driveway.

(7) A boiler sized for your pellet mill. This ordinarily will be a high pressure boiler (75-100 lb. pressure) with pressure reduced at the pellet mill to 30-40 lb. of pressure. This boiler may be installed in an outside building, but your insurance company may permit you to install it in a separate dust tight room in the mill building itself. Generally, an outside building is recommended. Let me comment here on steam in pelleting. Every major pellet mill produced today will produce satisfactory pellets without steam. But when you pellet without steam, you reduce pelleting capacity to a very considerable extent. You also do not get the partial cooking job which many (including this writer) consider to be one of the reasons why pelleted feeds generally improve rates of gain, palatability and consumption rates when contrasted to the same feed in meal form.

Pelleting Hay

I might comment here about one additional aspect of pelleting in the country mill. That is the growing business of pelleting hay or hay-based rations. For feeding cattle and sheep, the pelleted complete ration has come into its own in many cattle and sheep fattening areas, and to a lesser but growing extent for dairy cattle rations. Some custom operations have developed with hay banks in an adjoining building, where hay may be received in bales, and stored for grinding and pelleting against individual orders for pellets from the farmer. Should your custom milling business develop to the point where some considerable tonnage of pelleted hay is required, you may desire to install a separate building for your hay bank operation and to equip that building with a bale drag, bale shredder and separate hammermill to grind hay. From this second hammermill, the ground hay would be blown across to a dust collector located above one of the makeup bins, and that bin would be equipped with a live bottom feeder. In my opinion, the pelleting of hay will become, and is becoming, a major source of revenue for those custom millers.

SUMMARY—To summarize the progressive steps suggested for the development of a custom milling service, you will note that the mill has been laid out initially to perform all the functions which you believe you will want to accomplish when your development program is completed. By laying your mill out in this manner, you will be able to achieve an orderly, step by step growth pattern which, when completed, will let you perform all the custom milling services you will want to offer your trade.

In conclusion, I should add that the grain bank service has proved an important business builder amongst many custom mills in the U.S., and it is suggested that you should examine this possibility in laying out your initial storage for grains. I have dealt only perfunctorily here with the question of bulk storage facilities. It goes without saying that bulk tanks or an elevator for the receiving of grains in bulk is a most important consideration in laying out a custom mill.

I suggest as well that you entertain very seriously the possibility of delivering your finished feeds in bulk, as well as in bags. Nothing you can do in a feed mill will reduce labor requirements, warehouse requirements and speed in handling as much as the ability to deliver your finished feeds in bulk. Also, with the advent of self feeders, you will find that you will reduce very materially the labor of feeding for your customers when you are able to deliver feeds in bulk.

The custom milling service has a remarkable future, in my opinion, and I hope these comments may have aided in your consideration of this important field.

Buy and Sell
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FEEDSTUFFS

Reserpine Conference Proceedings Available

SUMMIT, N.J.—The proceedings of the Second Conference on the Use of Reserpine in Poultry Production, held recently at the University of Minnesota and sponsored by CIBA Pharmaceutical Products Inc., are now available, the company has announced.

Published in book form, the proceedings contain the complete papers and graphs presented by the 11 poultry scientists who participated in the conference.

The speakers and their topics include: Dr. B. D. Barnett, "Reserpine in the Control of Aortic Rupture in Growing Turkeys;" Dr. Harold S. Weiss, "Studies with Serpasil in Laying Hens;" Dr. C. Wendell Carlson, "Further Studies with Reserpine for Growing Turkeys and Laying Hens;" Dr. Robert K. Ringer, "Aortic Rupture, Plasma Cholesterol and Arteriosclerosis Following Serpasil Administration to Turkeys;" Dr. Ray E. Burger, "Effect of Reserpine on Responses of the Laying Hen to High Temperature;" Dr. Paul E. Waibel, "Some Results on the Effect of Reserpine on the Incidence of Dissecting Aneurysm in Turkeys;" Dr. Ernest L. Parker, "Four Field Trials with Serpasil under Semi-Arid Conditions in Arizona;" George Patrias, "Field Studies of Controlling Internal Bleeding in Turkeys Using Reserpine;" Dr. W. D. Morrison, "Report on Field Cases of Aortic Rupture in Turkeys Treated with Reserpine;" Dr. Herbert S. Wilgus, "Serpasil for Tranquilizing Geese," and Dr. George B. Belloff, "Reserpine for Stress in Poultry Husbandry."

Complimentary copies of the proceedings may be had by writing to the feed additive sales division, CIBA Pharmaceutical Products Inc., Summit, N.J.

Ship Ahoy Boys!
we sure get the grain in fast
since we installed "Kewanee" Spouts
ROUND HOPPER SECTION
INTERMEDIATE SECTION
HANDLE SECTION
SQUARE HOPPER SECTION
Maneuverability does it! The flexibility of "Kewanee" Grain Loading Spouts enables you to get grain into the far ends of holds or cars real quick. And, they are easier to handle — each section is hung from sturdy lock-link chain and nests well within the succeeding section to control the flow of material. "Kewanees" also save on replacements because of their patented "renewable" bottoms. "Kewanee" Spouts offer extra protection which you do not get with conventional spouts. The top hopper and lower sections are well reinforced for added service.
Here's what makes the renewable bottoms so good! They are made of "Hy-Loy" abrasion-resisting steel which gives them extra toughness. They literally fight wear — all for your benefit.
IT'S THE RENEWABLE BOTTOMS THAT TAKE ALL THE WEAR.
Insist on "Kewanee" Spouts — you will be money ahead. Stocks located at convenient centers assure quick shipment.
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Flexible Grain Loading Spouts
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Beef Growers Oppose Grain Ruling, Favor Grading Standards

TWIN FALLS, IDAHO—The Idaho Cattle Feeder Assn. has gone on record as opposed to the U.S. Department of Agriculture mixed grain ruling and in favor of revised beef grading standards.

Meeting in their annual business session, feeders heard a report from Ralph Olmstead, state vice president from Twin Falls, on an earlier directors' meeting. In the session, directors opposed the mixed grain program which allows a maximum of 25% harvested wheat in the mixed grain crops.

Mr. Olmstead urged other agricultural and livestock organizations to support the feeders.

The directors also asked for a revision in beef grading methods to meet the public's demand for leaner beef cuts. They also urged action to label imported meats with the point of origin, explaining some of the meat imported from New Zealand by way of Hawaii is carrying the "U.S. Choice" label when it reaches market.

Paul Ostby, animal nutrition specialist for Dawe's Laboratories, Inc., in Chicago, was guest speaker at the association meeting.

He discussed most recent improvements in cattle feeding. He also reported on the continuing research program underway to develop the best combination of components for prepared feed.

FEED MILL GETS OKAY

BOULDER, COLO. — The Boulder County Board of Adjustments has approved a request to operate industrially in a residence zone. Bruce Vaughan was granted permission to build a commercial feed mill in the Union Pacific railroad right-of-way at Liggett siding, located on County Road 10.

Corn Refining Capacity Over 200 Million Bu.

WASHINGTON—Corn refining capacity in the U.S. now exceeds 200 million bushels, according to a survey recently completed for the Corn Industries Research Foundation, Inc., Washington.

Corn refiners or wet-millers can grind 565,500 bu. of corn into finished products daily, but are operating at only three-quarters of that capacity, reports Floyd J. Hosking, executive vice president of the foundation.

The corn refiners have geared up their production through process improvement and expansion during recent years to assure their customers in some 60 industries an ample and continuing supply of essential products during the current and expected population boom. Since World War II, the corn wet-milling industry has invested more than $200 million in capital expenditures for this purpose.

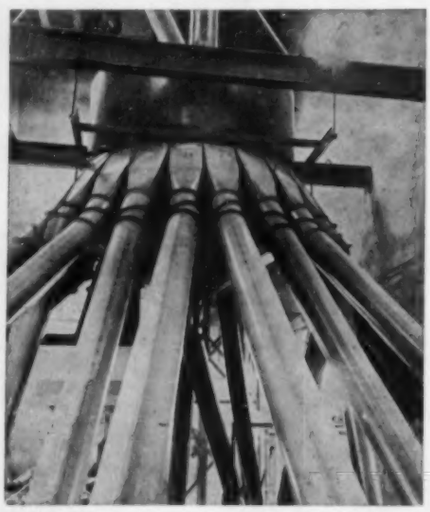
Sales of the products of the corn wet-milling industry—starch, syrup, sugar, oil and feeds—are closely correlated with the output of non-durable goods, such as paper, textiles, bread, confectionery and other food products. In 1959 the industry ground 153,010,863 bu.

In view of the corn refining capacity in the U.S., Mr. Hosking points out, there is concern over the increase in imports of competing starches. At the first-quarter 1960 rate, duty-free imports of tropical starches will total nearly 250 million lb. in 1960.

Eleven member companies of the foundation contribute to the grind capacity. They are: American Maize-Products Co.; Anheuser-Busch, Inc.; Clinton Corn Processing Co.; Corn Products Co.; The Hubinger Co.; Huron Milling Division of Hercules Powder Co.; The Keever Starch Co.; National Starch & Chemical Corp.; Penick & Ford, Ltd., Inc.; A. E. Staley Manufacturing Co., and Union Starch & Refining Co., Inc.

LET GERBER SOLVE YOUR
GRAIN AND FEED HANDLING PROBLEMS

The Gerber Roto Flo Distributor
Patented



This illustration shows a typical Roto Flo installation using reversible elbows and Gerber's high quality bin spouting.

Keep Your Grain Quality Up With the
GERBER
PORTABLE AERATION UNIT

Patent Pending

Yes—the Gerber Portable Aeration Unit can be the best purchase you have ever made. Low in cost—high in efficiency—easily moved to the point of trouble—and adequate for the job—this carefully designed and adequately tested unit has proven its worth in hundreds of installations. A practical and down to earth approach to the problems of grain storage—and one which works.

★ GERBER'S REVERSIBLE ELBOW

Save installation time by using Gerber Reversible Elbows. Loosen one nut and adjust elbow to angle desired. Made of Hi Carbon Steel for longer wear. Any size available, 6" and up.

★ 2-WAY ROUND VALVE

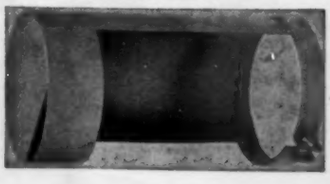
Use the Round Gerber Valve and eliminate special square to round transition. Valve can be flanged to connect to flanged spouting. Note the adjustable handle. Outlets can be straight down as shown or at natural angle. Round valve furnished in bucket or basket type only.

★ 2-WAY SQUARE VALVE

Square Valves can be made in either the flop gate style or bucket type. Outlets can be furnished straight down as shown or at natural angle. 6" to 16" sizes available. Special bottom drop out valves can also be furnished.

★ ROUND DEAD STOP DEFLECTORS

Attach Deflector to end of spout to deflect the flow of grain. Long lasting as grain wears against grain instead of metal. Can also furnish self-cleaning Dead Stops.



GERBER SHEET METAL, Inc.
416 35TH AVE. N.E. MINNEAPOLIS 18, MINN.
PHONE
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'Slobber Factor' in Forages Studied

URBANA, ILL.—A number of cases of cows slobbering excessively after eating second-growth legume forages, principally red clover, has prompted a study of an unknown "slobber factor" found in the forages, two University of Illinois dairy scientists have reported.

Speaking before the 55th annual meeting of the American Dairy Science Assn. at Utah State University, Dr. J. H. Byers and Dr. H. P. Broquist said that they have been able to reproduce the condition in the laboratory.

The scientists explained that generally cows eat 5-15 lb. of the forage, begin to salivate profusely, and then stop eating. Also, hot water extracts of the forage usually cause excessive salivation in less than an hour when administered to cows by drenching.

The scientists also were ale to produce excessive salivation in guinea pigs by adding red clover containing the slobber factor as 40% of the guinea pig diet.

Research to date indicates that the unknown slobber factor may be an alkaloid, the scientists said.

Mastitis Study Grant

NEW YORK—The University of New Hampshire has received a grant-in-aid from American Cyanamid Co. for research to isolate new strains of mastitis causing bacteria which can be added to the present staphylococcus toxoid to improve its effectiveness.

In December, 1959, a new vaccine for aid in the control of staphylococcal mastitis, developed at the New Hampshire Agricultural Experiment Station, was made available to dairy farmers. The new vaccine has been reported to "almost completely" stop the spread of staph-caused mastitis. Manufactured by American Cyanamid and available to the veterinary profession under the name Staphylococcus Aureus Toxoid, the vaccine is reducing the number of flareups in infected cows for as long as 18 months in field use, it is said.

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SWANSON
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PRO-PEN STILL TOPS ALL OTHER ANTIBIOTICS IN TONNAGE...ECONOMY...EFFECTIVENESS!

Here's how you can reduce your antibiotic inventory...cut your antibiotic costs!

Highly-effective PRO-PEN is the *most economical* supplement you can buy. No other antibiotic can match its combination of *low cost* and *high performance* in stimulating growth and promoting efficient feed conversions in both swine and poultry rations.

Progressive feed manufacturers rely on PRO-PEN for its:

- **Consistent** stability
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- **Specially designed** mesh size and crystalline shape that meets the most exacting mill requirements.

Gram for *Gram*—procaine penicillin surpasses all other antibiotics—broad- or narrow-spectrum—in *the unit cost* of fortifying swine and poultry rations. Call your Merck Feed Products Representative today. Ask him for our latest quotations on PRO-PEN to help *reduce your antibiotic inventory...cut your antibiotic costs.*

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CK Econosol

Don't Mix Without

That's because this fish soluble product dried on soymeal provides a uniform and top-quality source of unidentified growth factors for resultful poultry, turkey and pig feeds.

And results means re-orders!

Econosol is easy to handle and mixes readily. There's none of the unpleasant mess of handling liquid fish solubles. Econosol comes to you—fast and dependable—in 40 lb. moisture resistant bags ready to make more sales through better feeds for you.

Today's a good day to get all the facts and the good news about price on CK's Econosol.

Econosol

is another champion from the CK line of feed ingredients which also include

- Econolyzo — Blackstrap molasses dehydrated on Soymeal.
- New Econolec — Deoil and lecithin concentrated on soymeal.
- New Econoform — Multiple cultured product absorbed on soymeal.

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Pit Augers • Elevator Legs • Mixers • Scalpers • Graders • Earcorn Crushers • Steel Bins

Hammer Mills 50 to 150 H.P.

Corn Cutters

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BOX 537 MONMOUTH, ILLINOIS

MANUFACTURERS OF QUALITY MILLING EQUIPMENT SINCE 1930

FLORIDA LAYING HOUSE—This open-air laying house will hold 5,000 birds. There are some drawbacks to poultry in Florida, though, according to Edwin Carter. Some include rapidly fluctuating markets, demand for capital and a need for more careful management.

Florida Feed Man Discusses Market Egg Contracting, Trends

By Charles Stratton
Special Writer

"Some kind of standardized marketing program will supply some of the answers to the poultry industry problems," says Edwin R. Carter, district sales manager, General Mills, Jacksonville, Fla. "Eggs are a perishable item. The citrus people don't let certain types of oranges go to market. We should treat eggs the same way. No one should get a Grade A with a blood spot. Neither should there be one medium in a dozen large eggs. What about the poor quality egg that turns a consumer's stomach so he loses all taste for eggs? The net result is nothing accomplished in the way of marketing eggs, the end product."

Contract Program

"The idea of contract market eggs is one of long-range thinking. As feed manufacturers," Mr. Carter continues, "our Jacksonville mill is only one of three area mills here in Florida."

He points out the new trend is toward smaller feed mills in order to blanket a 75-mile working area, dealing directly with the producer (farmer), and having as a nucleus a contract market egg program within a 50-mile radius of the mill.

Mr. Carter claims that through a combination of mismanagement of financing and low egg markets, some worthwhile producers have reached the point of no return. They have no credit and no security to put up. Here's where the contract market egg program steps in to help them out on a "no-risk" basis as well as heading up a long range egg marketing program.

Under very close supervision, Mr. Carter feels a few of the top producers can be helped back onto their feed. This program is not being sold as such. It involves risk on the feedman's part as a producer may sell some of his feed allotment, feed it to hogs, sell the eggs, etc.

Briefly, here's how it works in Mr. Carter's section. The feed man owns the feed, birds and takes care of the servicing. The producer furnishes the buildings, equipment, labor and picks up the eggs. Other than casing the eggs, the producer does not clean or grade the eggs.

Pullets are started on a replacement growing farm at day old, the replacement grower receiving 1¢ per bird per week up through the 19th week. Like the egg producer, he must be equipped for bulk feed and his buildings and equipment must meet standard recommendations.

Producer payments range from $75 per 1,000 birds per month from 20th to 24th week, then go to $100 per month per 1,000 birds. No incentive

FEED MAN—Edwin R. Carter, district sales manager for General Mills in Jacksonville, Fla., says the new trend is toward smaller feed mills that will blanket a 75-mile working area.

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STERLING SALT PUTS A PLUS IN YOUR SWINE FEEDS

By Ewing Galloway, N. Y.

Your customers depend on you for feeds that provide maximum health protection for their animals. You can offer this protection, without increasing your mineral inventory, by using Sterling Swine Supermix Blusalt in place of plain salt. Sterling Swine Supermix is fortified with extra zinc to protect against Parakeratosis, and contains six other vital trace minerals as well. Thus one fine product provides a proper trace-mineral balance for all swine feeds—pre-starter, starter, sow and fattening feeds. For mixing data, guaranteed analysis and other formula service, contact International Salt Company's Farm & Feed Department, Clarks Summit, Pa. District offices: Boston, Buffalo, Charlotte, Chicago, Cincinnati, Detroit, Newark, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis.

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STERLING FARM & FEED SALT

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POULTRY SHORTAGE — Florida produces only 10% of the turkeys consumed within the state, 20% of the broilers and not over 65% of the eggs, so there is still lots of room for expansion.

payment is included. An alternate plan is based on payment of 6¢ per dozen for Grade A eggs, regardless of size, plus a year-end bonus based on feed conversion that ranges up to an additional 1¢ per dozen. So far, most producers prefer the no-risk contract payment.

Flocks range in size from 10,000 to 40,000 birds. These are all floor operations. So far, Mr. Carter claims there is no basis for statement that cage operations are as economical as floor operations. Neither have cage fly problems been solved. Farms will be under strict supervision and large farms are located close together to utilize servicemen and facilitate egg pickup.

Meat Bird Contracts

Present meat bird contracts in Mr. Carter's section guarantee the grower labor payments of 1½¢ per pound of meat grown plus a conversion and market bonus on 14 to 18½¢ markets; over a five-month period this past winter, growers averaged $65 per 1,000 birds.

According to this feed man, Florida is deficient in poultry as it produces only 10% of the turkeys consumed within the state, only 20% of the broilers, and not over 65% of the eggs. He feels there is a wonderful chance to grow turkeys.

Summing up the advantages, he points out that production costs are less in Florida, housing is more economical than in other sections, hardly any heat is required for brooding, and labor is economical. In Florida, he says, there is still good poultry land available for $100 per acre instead of $500 as in some other sections.

Although there is a local fish meal plant and southern corn and soybeans are readily available, he points out grain costs are slightly higher due to transportation.

He does warn that there are drawbacks to poultry production in Florida. Deciding factors are fast fluctuating markets, poultry farming still requires a lot of capital, and it is a business like anything else and must be managed properly.

"If a fellow doesn't own the land, if he's independent and has got to finance his own chicks and feed," he warns, "it will require a lot of capital. On the other hand, you can build a house of 10,000 sq. ft. for either 4,000 layers or 10,000 broilers at a cost of $5,000—50¢ a square foot. But it will require an additional $2,500 for equipment."

Edwin Carter says, "Our contract market egg program is strictly a long-range program. We take all the risk and we work on a strictly cost basis. We've got to justify the producer as well as ourselves as the feed manufacturer — and if we're anywhere near right, we'll come out with a satisfactory profit margin on our feed."

Customers Like Evening Session

BUSHNELL, ILL. — An evening meeting with coffee and doughnuts served afterwards is by far the most popular with the customers of Bonnett Feed & Grain Co.

John Bonnett, manager, sent out a questionnaire to his feeder customers to help determine what type of meeting they wanted, and when it should be held.

Of those answering the questionnaire, 58 listed the evening meeting mentioned above as first or second choice. Next in line in popularity—with 25 first and second choices—was an afternoon meeting from 1 p.m. to 4 p.m. with a coffee break. Sixteen customers favored as first or second choice a workshop-type meeting with limited enrollment.

Listed as least desirable was a day meeting from 9 a.m. to 3 p.m. with a meal.

Among the various meeting subjects that interested Mr. Bonnett's customers were livestock breeding, livestock marketing, livestock nutrition and livestock housing and equipment.

Sixty-two of those answering the survey said they would like to receive a newsletter covering some of the above topics, and most of the 62 felt that monthly or "when something new came up" was sufficient frequency for the newsletter.

A proposed workshop series on "Decision Making on the Farm" brought affirmative replies from 23 customers.

SELECT FEED MILL SITE

NEVADA, IOWA — Nevada businessmen met recently with L. C. McLean, district sales representative for the Ralston Purina Co. to assist in the selection of a site for a new feed mill in Nevada.

Cattle Field Day

DUMAS, ARK. — The Darragh Feed Co., Little Rock, and Vit-A-Way, Inc., Ft. Worth, Texas, sponsored a cattle field day at the Dante Farms near Dumas recently. Mrs. Valerie Boyce, Darragh consultant, and James Keenan, Vit-A-Way area representative, discussed the gains which have been made in the herd on Dante Farm.

Dr. Maurice Ray, University of Arkansas, spoke about nutrition as it affects fertility of cattle. Lowell Donnell, Wentzville, Mo., operated a field laboratory and demonstrated the fertility testing of bulls. Dr. Arthur Spooner of the University of Arkansas talked about better quality pastures.

Arch Smith, Texarkana, who is president of the Arkansas Cattlemen's Assn.; Jack Dante, owner of the Dante Farms, and Billy Free, mayor of Dumas, were the other main speakers.

Can you risk without

...when scientists say:

nf-180 controls more turkey diseases than any other drug

Because of nf-180's wide-range disease protection, its use in medicating poult starter feeds is almost universal. But if you are financing turkeys, it is during the *growing and finishing* periods that you have considerable money tied up in feed. This is when nf-180 protection is *particularly vital.*

nf-180 continuous feeding protects birds against so many disease and stress troubles that increase risk during growing and finishing. At the same time, nf-180 protects your company's investment and your feed's reputation.

And in the long run, nf-180 protective feeding most likely *costs less* than treating troubles as they occur. nf-180 protection costs just a few pennies a bird. Without it, high-priced servicemen can burn up a lot of time and gas making trouble calls. Then by the time a specific diagnosis is made, disease has already taken a heavy toll in mortality and stunting.

nf-180 frees turkeys of the constant disease drag. Birds grow faster and convert feed more efficiently. All in all, the income-boosting, worry-reducing advantages of nf-180 mean happy customers . . . and bring new ones, too.

Compare nf-180 with other turkey feed medications

DRUG	Growth Stimulation	Typhoid & Pullorum	Peracolon	Paratyphoid	C. R. D.	Blue Comb	Hexamitiasis	Synovitis	Ulcerative Enteritis	Blackhead	Stress Periods
*nf-180 (furazolidone) Level (grams)	YES 7½-10	YES P-50 T-100	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100
Chlortetracycline	YES	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES
Oxytetracycline	YES	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES
Bacitracin	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	YES
Penicillin and Streptomycin	YES	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO
Penicillin	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO
12½ Penicillin plus 37½ Bacitracin	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	YES
Erythromycin Stearate	NO	NO	NO	NO	P-? T-YES	P-? T-YES	NO	P-? T-YES	NO	NO	NO
2—Acetylamino 5—Nitrothiazole	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-YES	NO
4—Nitrophenyl Arsenic Acid	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-NO	NO
Carbasone	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-YES	NO
A Sulfa—Tin—Arsenical Comb.	YES	P-? T-NO	NO	NO	NO	P-YES T-NO	P-YES T-NO	NO	NO	NO	NO

KEY — P: Prevention T: Treatment *Each pound of nf-180 Concentrate contains 50 grams of furazolidone

USDA Report on Wet Corn Issued

WASHINGTON—A report on "Making the Most of Wet Corn" (ARS 22-56) has been published by the Agricultural Research Service of the U.S. Department of Agriculture.

In the report, USDA notes that because of the many variables involved, no single set of "best" answers to the wet corn question can be offered that will apply to all farmers.

"Size of farm and whether the corn is grown for climate and market conditions are only some of the variables that would affect the answer," says USDA.

However, USDA adds, enough precise information about the changes that take place in the corn under varying conditions, and the principles underlying them have been developed through experience and research to guide the individual farmer in determining the best answer to his wet corn problem.

In backgrounding the booklet, USDA notes that the question of how to make the most of wet corn is becoming an increasingly important one in the farm economy because of a number of technological developments.

Although field shelling still accounts for only 4-5% of the total corn crop harvested for grain, this method of harvesting is increasing rapidly and promises to have a tremendous impact on corn production, USDA says. A comparatively recent development (mostly since 1954), field shelling requires mechanical drying facilities or sealed storage for handling the shelled grain.

USDA points out that other long term trends that have contributed to the growing importance of wet corn include: (1) The increased availability and improvement in equipment for drying and storing high-moisture corn; (2) farm mechanization—particularly the swing to mechanical harvesting which puts a premium on early harvest—to obtain maximum yields, and (3) higher yields from hybrids requiring a long growing season.

Drying as ear corn by natural ventilation—either in the field or in the crib—is still the method used to condition most of the corn crop for storage, USDA goes on. (Only 3% of the corn harvested for grain in 1956 was mechanically dried.) But a variety of other possibilities are now open to growers, including: Harvesting the corn at a high moisture content either as shelled or ear corn and drying it mechanically with unheated aid, supplemental heat or heated air; or storing the corn without drying in sealed (airtight) storage facilities.

Complicating the farmer's choice of solutions to the wet corn question are the many decisions that need to be made well in advance of putting them into effect, USDA says. For example, a grower may want to change from conventional methods of picking the corn at around 20% moisture content and crib drying it to harvesting the corn wet and drying it mechanically. In order to do this, a grower would have to start making his plans and preparations soon enough to have the new facilities for harvesting and storing the grain ready by harvest time.

TO FEED CATTLE IN INACTIVE SALT MINE

LYONS, KANSAS—Armour & Co. has arranged with the Carey Salt Co. to feed cattle 1,000 ft. down in an inactive salt mine at Lyons.

The purpose of the project is to determine the advantages of feeding cattle under controlled conditions of temperature and humidity such as are found in the mine.

Two 25-head lots of feeder cattle will be used—one to be fed in the mine and the other above ground.

Group Urges Proper Rice Product Labeling

SACRAMENTO, CAL.—The California Hay, Grain & Feed Dealers Assn. has called the attention of its members to a means of correcting difficulties which have been experienced in obtaining proper labeling of a rice product used in mixed feeds.

The material is rice bran and rice polish to which ground rice hulls have been added. The association reported that both manufacturers and feed mixers must meet their responsibilities in regard to labeling where this material is used.

The official name of the product is Rice Mill By-Product and is defined as: "The total offal obtained in the milling of rice. It consists of rice hulls, rice bran, rice polish and broken rice grains. Its crude fiber content shall not exceed 30%." When incorporated in a mixed feed, the percentage used must be shown on the label.

The association said that inspectors are being informed that all mixtures of rice hulls, rice bran and rice polish must be labeled as Rice Mill By-Product. If other ingredients are incorporated, the percentage of Rice Mill By-Product must be shown on the label. The association said that conformity with this labeling requirement will avoid the red-tagging and removal from sale.

Heads Production Unit

TUCSON, ARIZ.—Dr. O. F. Pahnish of the University of Arizona Animal Science Department has been elected president of the western section of the American Society of Animal Production. The society met in Logan, Utah, recently.

Dr. Pahnish served as vice president of the group in 1959.

turkey contracts nf-180 protective feeding?

...when growers report:

"...best single drug for turkeys!"
"nf-180 pays and pays good!"

How do turkey raisers feel about nf-180 once they've used it? Are they willing to pay extra for nf-180 medicated feeds?

To find out, Hess & Clark interviewers, armed with tape recorders and cameras, talked to the people who know — turkey raisers themselves. Here are four successful turkeymen telling how they feel about...

The cost of nf-180:

"Some people ask, 'Why do you use nf-180? That's too high priced.' Well, I say, 'nf-180 has paid off in dollars and cents.' My wife and I, we're the ones who have to foot the bills. And I'm convinced that nf-180 *does pay and pay good!*" — Paul Bandel, Rochester, Minn.

nf-180 compared to other drugs:

"I would say that, without any question, nf-180 is the best single drug for turkeys. If I had to pick the one drug that did the most for our operation, I'd pick nf-180." — Keith Langmo, Paynesville, Minn.

nf-180 for specific troubles:

"We shoot the 2-lb.-per-ton level of nf-180 to turkeys that are in stress period... sometimes even a 3-lb. level to straighten them out. And we use 4 lbs. of nf-180 per ton in treating blackhead." — Harold Kaufman, Wayland, Iowa.

"nf-180 is excellent against Salmonellas. It is definitely the treatment for enteritis. And nf-180 saves a few ulcers for me, too." — Keith Langmo

"In general, nf-180 helps control most diseases. If our birds have something and we don't know what it is, we try nf-180 first"— R. T. Maddox, Harrisonburg, Va.

Raising turkeys without nf-180:

"I'd hate to raise turkeys without it! I feel more relaxed . . . less helpless with nf-180 in my feed. There are a good many medications for the turkey industry, but I feel nf-180 is at the top."— Paul Bandel.

• • •

HOW TO SET UP AN nf-180 PROTECTIVE FEEDING PROGRAM

GROWING-FINISHING PERIOD . . . check your past history and local disease problems. Choose the protective feeding program you need:

• 2-lb. (100 grams furazolidone) level continuously should be used to protect against blackhead, hexamitiasis and other diseases.

• 1-lb. (50 grams furazolidone) level continuously gives wide protection against stress and many diseases where blackhead and hexamitiasis are not likely problems.

• Week-a-month plan for areas where disease is not a serious problem. Many growers report good results using a 2-lb. nf-180 stress feed (100 grams furazolidone) one week a month to clean up birds, fight stresses and knock out disease organisms before they can build up and trigger trouble.

TO TREAT SPECIFIC DISEASES . . . use a feed with a 2-4 lb. (100-200 grams furazolidone) level of nf-180. Refer to chart at left for proper level.

Why take chances with drugs that fight only one or two diseases? Use nf-180, the one drug . . . the only one . . . that offers wide-range effectiveness.

Protect birds — from poults to processor — with nf-180.

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Stilbestrol, Tranquilizer For Cattle Studied

STATE COLLEGE, MISS. — Stilbestrol significantly increased the rate of gain of fattening steers when fed at the rate of 10 mg. per head daily in a test conducted at Mississippi State University.

In this experiment, fattening steers were fed stilbestrol, tranquilizer (hydroxyzine) plus stilbestrol and tranquilizer in their daily ration.

Tranquilizer fed at the rate of 10 mg. per head daily appeared to increase the rate of gain, but this increase was not significant, Dr. H. W. Essig and W. R. Moorhead pointed out. Stilbestrol and tranquilizer fed in combination at the rate of 10 mg. each per head daily appeared to increase gains slightly, but the difference was not significant, they noted.

Animals assigned to the different treatments made the following average daily gain: Control, 2.64 lb.; stilbestrol plus tranquilizer, 2.71 lb.; tranquilizer, 2.88, and stilbestrol, 3.20 lb.

None of the treatments produced a significant effect on carcass quality.

The researchers drew the following conclusions from the results of the experiment:

"Oral administration of 10 mg. of stilbestrol daily increased rate of gain in steers under drylot conditions.

"Stilbestrol fed at the rate of 10 mg. per head daily had no apparent effect on carcass quality.

"Tranquilizer had no significant effect on average daily gain and carcass grade.

"Hydroxyzine (the tranquilizer) fed at the rate of 10 mg. per head daily produced no apparent tranquilizing effect."

Grain Man Moved

MEMPHIS, TENN. — Arthur E. Sax, formerly of the St. Louis office, has been named by Norris Grain Co. as assistant manager of the Memphis office.

The Memphis office buys grain and soybeans produced in the mid-South and brings corn here from the Midwest by barge.

PILOT BRAND OYSTER SHELL

IN DEMAND EVERYWHERE... ALL OF THE TIME

PILOT BRAND knows no season. It's a best seller the year 'round. Poultry raisers have learned that this ideal eggshell material helps them get more eggs... eggs with stronger shells...eggs that bring top prices in the market.

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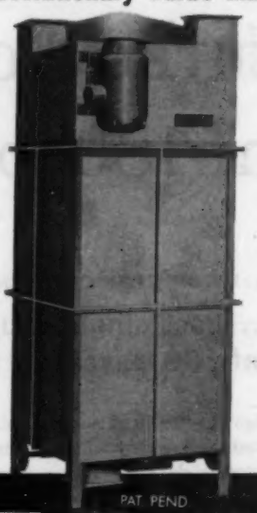

Square Mixer

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Unique design and patented tapered worm of the T-R-H Square Mixer save space (1-ton capacity in only 16 sq. ft.); simplified construction reduces installation and upkeep costs, makes stainless steel models economical. Mixer has multiple inlets and outlets; doors are easily accessible for quick inspection and clean-out.

Available in pedestal type and stainless steel models, of ¼, ½, 1, 1½ and up to 8 tons capacity.

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CALENDAR

(Continued from page 41)

C. B. Ryan, Texas A&M College, College Station.

Aug. 5-6 — North Carolina Feed Manufacturers Assn.; Grove Park Inn, Asheville; sec., McNair Evans, Box 44, Mocksville.

Aug. 9-10 — Wisconsin Nutrition School for Feed Men; University of Wisconsin, Madison; chm., Dr. Robert Grummer, Animal Husbandry Dept.

Aug. 11 — Michigan Swine Day; Michigan State University, East Lansing; chm., Ed Miller, Extension Specialist, Animal Husbandry.

August 12 — Ohio Dairy Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 14-18—Business Management Program, sponsored by Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

Aug. 16-17 — Mutual Millers and Feed Dealers Assn.; Hotel Jamestown, Jamestown, New York; sec., Mrs. Donald E. Mattison, P.O. Box 8, Cattaraugus.

Aug. 18—Michigan Cattle Feeders Day; Michigan State University, East Lansing; Hugh E. Henderson, Extension Specialist, Animal Husbandry.

August 19—Ohio Swine Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 22-23—Kentucky Feed Conference; Campbell House, Lexington; sponsored by the Kentucky Grain & Feed Assn. and University of Kentucky; sec., Jack Weber, P.O. Box 425, Lexington.

Aug. 22-23 — American Soybean Assn. and National Soybean Processors Assn., joint conference and meeting; Hotel Peabody, Memphis, Tennessee; George M. Strayer, exec. vice pres., American Soybean Assn., Hudson, Iowa, and R. G. Houghtlin, pres., National Soybean Processors Assn., 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 25—Michigan Lamb Feeders Day; Michigan State University, East Lansing; chm., Leonard Blakeslie, professor of Animal Husbandry.

Aug. 26—Purdue Swine Day; Purdue University, Lafayette, Ind.; Dr. J. H. Conrad, Animal Science Dept.

Aug. 29-Sept. 1 — Georgia Poultry Institute; Rock Eagle, Georgia; Milton Dendy, Extension Poultryman, College of Agriculture, University of Georgia, Athens.

Sept. 1-6 — International Congress on Nutrition; Sheraton-Park Hotel, Washington, D.C.; sponsored by International Union of Nutritional Sciences; sec., Milton O. Lee, 9650 Wisconsin Ave., Washington 14, D.C.

Sept. 2—Missouri Swine Day; University of Missouri, Columbia; Dr. L. F. Tribble, Animal Husbandry Dept.

Sept. 2 — Illinois Cattle Feeders Day; University of Illinois, Urbana; A. L. Neumann, Animal Science Department.

Sept. 6-9—Feed Microscopy Short Course; University of Missouri, Columbia; chm., G. M. Barnhart, Chief Chemist, State Department of Agriculture, Jefferson City.

Sept. 13 — Iowa Feed Conference; Iowa State University, Ames; chm.; Dr. Virgil Hays, Animal Husbandry Dept.

Sept. 13-15 — Hatchery Short Course; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., P. O. Box 568, Columbia.

Sept. 14-15—Maryland Feed Servicemen's Conference; University of Maryland, College Park; chm., Wade H. Rice, Extension Service.

Sept. 14-16—National Feed Ingredients Assn.; Liggetts Holiday Inn, Burlington, Wis.; sec., Paul W. Bonewitz, 1023 Equitable Bldg., Des Moines, Iowa.

Sept. 15—All Poultry Industry Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Sept. 20-21—Iowa Poultry Convention; Veterans Memorial Auditorium, Des Moines; mgr., LeRoy L. Kruskop, 535 East Lincoln Way, Ames.

Sept. 21-22 — Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn., W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 21-23 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 28-29 — Ohio Poultry Assn.; Yough Bldg., Ohio State Fairgrounds, Columbus, Ohio; sec., Bruce R. Davisson, Poultry Dept., Ohio State University, Columbus.

Sept. 22-23 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry and Veterinary Science.

Sept. 29 — Vermont Feed Dealers

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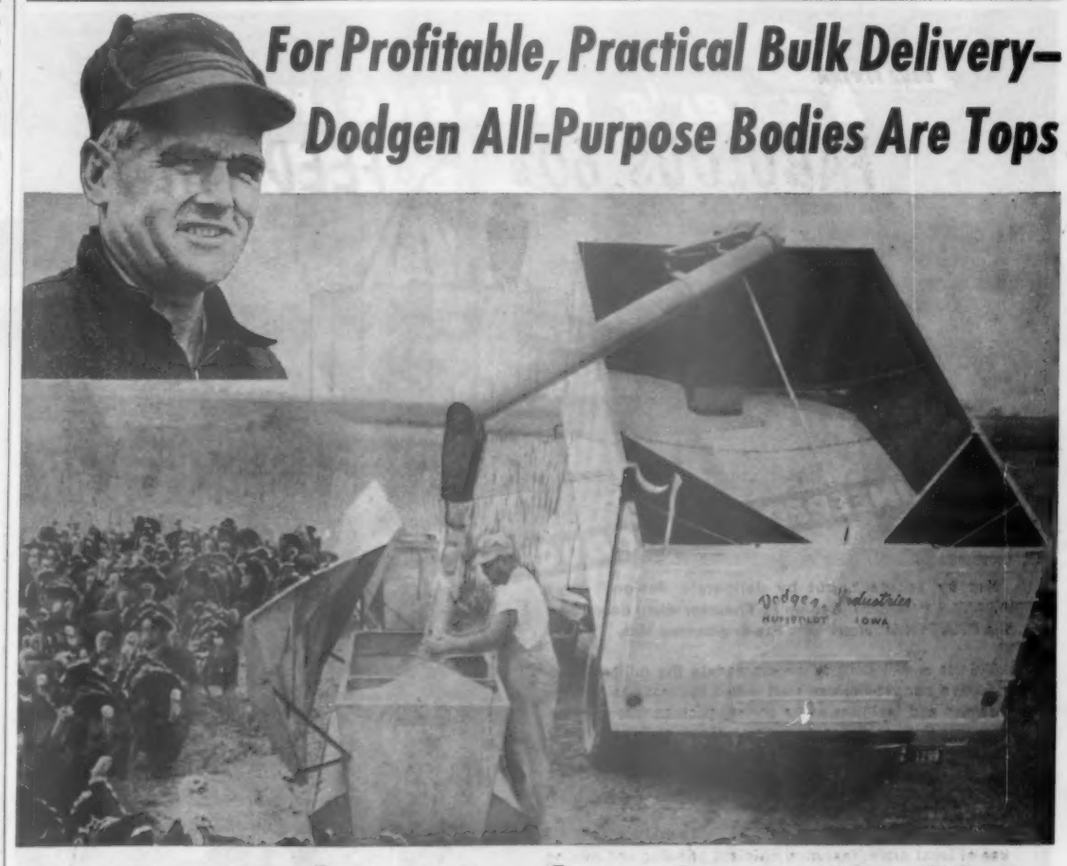

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and Manufacturers Assn.; University of Vermont, Burlington; sec., D. C. Henderson, Hills Agricultural Science Bldg.

Sept. 30—Nebraska Feed and Nutrition Conference; University of Nebraska College of Agriculture, Lincoln; chm., Dr. John L. Adams, Poultry Husbandry Dept.

Oct. 2-4 — Poultry Industries of Louisiana, Inc.; Bellemont Motor Hotel, Baton Rouge; sec., Clyde Ingram, Knapp Hall, Louisiana State University, Baton Rouge.

Oct. 4-5—Washington Junior Poultry Exposition; Western Washington fairgrounds, Puyallup, Washington; W. R. Jenkins, Extension Poultry Specialist, Agricultural Extension Service, Washington State University, Pullman.

Oct. 4-6 — Northeastern Poultry Producers Council; Exposition and Convention; Onondaga County War Memorial Bldg., Syracuse, N.Y.; Doris Endebrock, Exposition Mgr., 10 Rutgers Place, Trenton 8, N.J.

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Blue Streak Double Chain Drag Feeder
Blue Streak A.C. Mill with Pneumatic Screen Changer
Blue Streak Twin Spiral Mixer

Oct. 4-6—Northeastern Poultry Producers Council Exposition and Convention; War Memorial Auditorium, Syracuse, N.Y.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

Oct. 5-7—Texas Nutrition Conference, Texas A&M College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-12—Virginia State Poultry Federation convention and trade show; Hotel Roanoke, Roanoke, Virginia; sec., J. Paul Williams, 615 East Franklin Street, Richmond 19.

Oct. 12-13 — Association of American Feed Control Officials Annual Meeting; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Feed and Fertilizer Dept., Agricultural Experiment Station Bldg., University of Kentucky, Lexington.

Oct. 13-14 — West Virginia Feed Dealers Assn.; Blackwater State Park, Thomas, W. Va.; J. Z. Ellison, 801 Willowdale Rd., Morgantown.

Oct. 13-14 — Turkey Short Course and Jr. Market Turkey Show; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Oct. 16-18—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Kentucky Hotel, Louisville; John W. Tuttle, field manager.

Oct. 16-20 — Business Management Program; sponsored by the Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

Oct. 17-18—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Bert Maxwell, Nulaid Farmers Assn., Petaluma; association office, 1400 Tenth St., Sacramento 14

Oct. 20-21—Cooperative G.L.F. Exchange, Inc.; stockholders annual meeting; Onondaga War Memorial Bldg., Syracuse, N.Y

Oct. 20-21—Poultrymen's Institute; Washington State University, Pullman; W. R. Jenkins, Extension Poultry Specialist, Agricultural Extension Service.

Oct. 23-25—Southeastern Feed Production School; University of Georgia, Athens; Harold E. Ford, Southeastern Poultry & Egg Assn., 235 East Ponce de Leon Ave., Decatur, Ga.

Oct. 25-26 — Indiana State Poultry Assn.; Purdue Memorial Center, Purdue University, Lafayette; sec., Robert L. Hogue, Poultry Science Bldg., Purdue.

Oct. 27-28—National Swine Industry Conference; University of Kentucky, Lexington.

Oct. 27-28 — Washington Poultry and Hatchery Assn.; Chinook Hotel, Yakima.

Oct. 28—Illinois Sheep Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Animal Science Dept.

Nov. 2-3—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 2-3—Illinois Feed Assn.-Illinois Poultry & Hatchery Federation, mory, Springfield; sec., IFA, Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., IPHF, Aubrey Harless, Shelbyville, Ill.

Nov. 3-4 — Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. H. H. Williams, Biochemistry and Nutrition Dept., Savage Hall, Cornell University, Ithaca, N.Y.

Nov. 9-12 — National Renderers Assn.; Statler-Hilton Hotel, Dallas, Texas; sec., Miss Jamie Fox, 30 N. LaSalle St., Chicago, Ill.

Nov. 14-15 — Washington Animal Industry Conference; Skagit Valley College, Mount Vernon, Wash.; John G. Wilson, mgr., Washington State Feed Assn., 814 Second Ave. Bldg., Seattle 4.

Nov. 16-17—Missouri Poultry Improvement Assn.; Hotel Continental,

(Turn to CALENDAR, page 99)

SEE FOR YOURSELF
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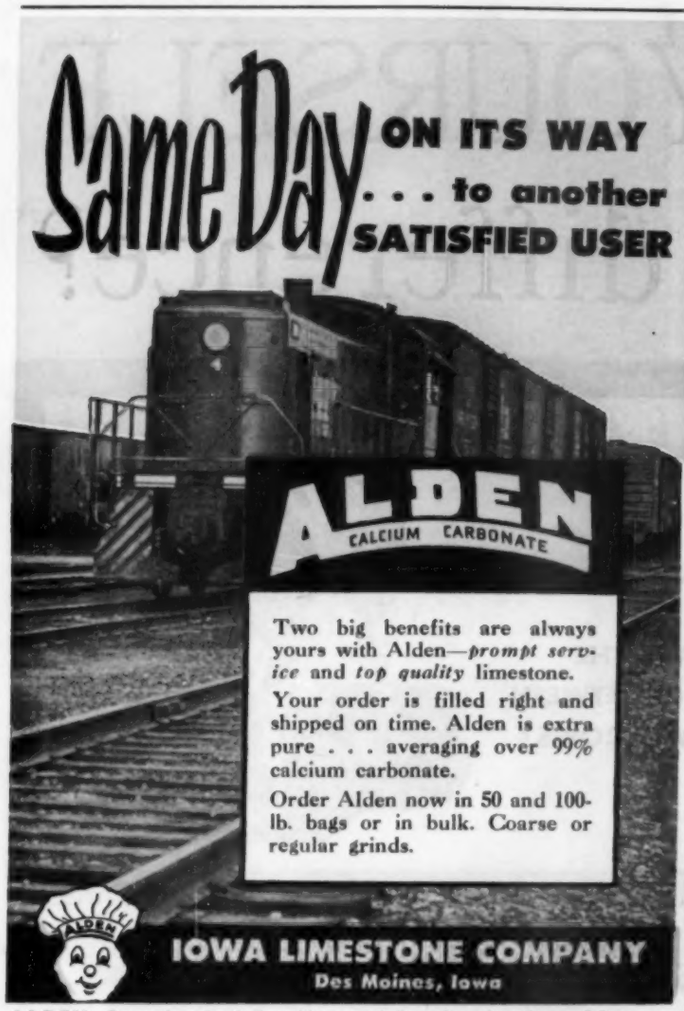
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Low-Fiber Fattening Cattle Rations Designed for Mechanical Feeding

"While in this trial the ration that would be adaptable to mechanization did not perform as well as a ration containing hay, the results look promising."

By Walter Woods, Wise Burroughs Robert Rhodes and Kenneth Davison
Iowa State University

The recent trend toward feedlot automation has indicated the need for a special ration for fattening cattle that can be handled completely by mechanization. The feeding of roughage (fiber) is the problem that is difficult and expensive to solve. A ration high in concentrate with a minimum of fiber would have advantages in mechanized feeding. This would eliminate the need of hay, which is not only difficult to feed mechanically, but it is not readily adapted to mechanization in harvesting. All-concentrate rations containing barley have been successfully fed. Barley is higher in fiber than corn. This may be a factor in formulating a successful high-concentrate ration.

This report is a summary of the initial feeding trial in which four high-concentrate rations containing corn were compared with a conventional fattening ration composed of ground shelled corn, baled alfalfa hay and supplement. The four high-concentrate rations are composed of ingredients that are adaptable to mechanization. The composition of the high-concentrate ration is given in Table 1. The rations are as follows: Ration 1, ground shelled corn, alfalfa hay and supplement; ration 2, mixed concentrate containing 15% cobs; ration 3, same as ration 2 except sodium and potassium bicarbonate are added as alkalizing agents; ration 4, 20% oats in the ration (lower in fiber than ration 2); ration 5, all concentrate (lower in fiber than ration 4). The mixed rations were formulated to contain about 12% protein, 0.8% calcium and 0.4% phosphorus. Stilbestrol was added to all rations. The rations were mixed once a week. After the cattle were on full feed, they were fed to have feed before them at the next feeding. Limited alfalfa hay was fed for the first 9 days in starting the cattle on feed.

EDITOR'S NOTE: This article is a summary report on the initial feeding trial at Iowa State University on low-fiber rations for fattening cattle. The experiment was conducted from February, 1960 to June, 1960. This report was one of many research reports presented at the recent Iowa Cattle Feeders Day at Iowa State University, Ames.

Six yearling steers were fed per lot. Weights were taken on three consecutive days at the beginning and ending of the 133-day feeding test. Weights were taken at 28-day intervals during the progress of the trial.

RESULTS—The performance for the steers fed the conventional and high-concentrate rations is given in Table 2. The average daily gain for the steers fed the conventional ration (ration 1) composed of ground shelled corn, baled alfalfa hay and supplement was 3.56 lb. The gains were lower for the steers fed the high-concentrate mixed ration. The gains com-

TABLE 1. Composition of High-Concentrate Rations

	Ration 2 15% corn cobs lb./ton	Ration 3 15% corn cobs lb./ton	Ration 4 20% oats lb./ton	Ration 5 all concentrate lb./ton
Corn, ground	1239	1214	1202	1546
Rolled oats	...	...	400	...
Corn cobs, ¼-in. grind	306	302	...	...
Dehydrated alfalfa	100	100	100	100
Soybean meal	194	200	114	135
Molasses	100	100	100	100
Dicalcium phosphate	14	14	14	14
Limestone	24.8	24.8	24.8	24.8
Urea	9.6	9.6	9.6	9.6
Salt	10.0	10.0	10.0	10.0
Sodium bicarbonate	...	19.0	19.0	30.0
Potassium bicarbonate	...	4.8	4.8	4.8
Yeast	...	...	...	23.8
Trace minerals	1.0	1.0	1.0	1.0
Stilbosol	1.0	1.0	1.0	1.0
Vitamin A and D, gm.	150	150	150	150

TABLE 2. Performance of Cattle Fed High-Concentrate Rations

133-day feeding experiment, 6 steers/lot*	Rations 1	2	3	4	5
Initial weight, lb.	777	769	765	773	768
Final weight, lb.	1250	1195	1173	1179	1114
Average daily gain, lb.	3.56	3.20	3.07	3.05	2.60
Average daily ration:					
Ground corn	17.7				
Alfalfa hay†	5.0	.3	.3	.3	.3
Supplement	1.1				
Complete mixed feed		23.1	23.3	21.2	20.3
Total	23.8	23.4	23.6	21.5	20.6
Feed per cwt. gain	669	731	769	705	792
Feed cost per lb. gain,‡ cents	12.5	15.2	16.3	17.4	19.3

*Six steers were on each ration with exception of ration 5 which had five steers. One died during the progress of the trial on ration 5 and cause of death was diagnosed as enterotoxemia.
†Alfalfa hay fed in rations 2, 3, 4, and 5 was fed during the first nine days.
‡Feed cost assigned: Ground shelled corn, $1.12 bu.; alfalfa hay, $18 ton; Supplement $95 ton; ration 2, $41.80 ton; ration 3, $42.90 ton; ration 4, $47.60 ton and ration 5, $49.09 ton.

pared favorably between rations 2, 3 and 4. It would appear that oats can substitute as effectively for the roughage as corncobs (rations 2 and 3 as compared with 4). It also appears that feeding of sodium and potassium bicarbonate as alkalizing agents did not benefit the high-concentrate rations (ration 2 vs. 3). The gains for the steers fed the all-concentrate ration (ration 5) were considerably lower than those for steers fed the conventional ration or the other mixed rations.

Feed consumption was similar for the conventional ration and the mixed rations containing corncobs. The steers receiving the ration containing oats as a source of fiber and the all-concentrate ration consumed less feed than the steers on the other rations. This would account for part of the reduced rate of gain of the steers on the all-concentrate ration.

Feed required per hundredweight gain was in favor of the steers fed the conventional ration. However, it should be pointed out that performance by these steers was exceptionally good. The ration containing oats (ration 4) was utilized slightly more efficiently than the other high-concentrate rations.

Feed costs were in favor of the conventional ration. The high-concentrate rations containing corncobs produced more economical gains than the rations containing oats or all concentrate.

While in this trial the rations that would be adaptable to mechanization did not perform as well as a ration containing hay, the results look promising. As more information becomes available on how to properly supplement a high concentrate it may be possible to formulate a ration adaptable for complete mechanization.

Ag School Moves

LOS ANGELES—The regents of the University of California have authorized establishment of a college of agriculture on the Riverside campus to meet the continuing needs of agriculture in the southern part of the state.

At the same time, the regents terminated the college of agriculture on the Los Angeles campus. The college will be gradually "phased out" during the next few years and transferred to other campuses as facilities become available—most of its activities probably going to Riverside.

The action was taken by the regents at their meeting on the Los Angeles campus following 18 months of study by various administrative and regents committees.

ARKANSAS FIRM OPENS

HARRISON, ARK. — The F&M Mobile Milling Co., a new firm, started operation here, offering a feed milling and mixing service. The firm is owned and managed by Waldo Fowler, Boone County PMA office manager, and Fred McKnight, Valley Springs, vocational agriculture instructor.

New Phone System

SAGINAW, MICH.—A. T. Ferrell and Co.'s old-plug-in type telephone switchboard has been replaced by a new Michigan Bell Telephone Model 756-A PBX system.

The new system speeds up connections of incoming calls and permits direct inter-factory dialing without assistance from the operator. The new number recently issued to the firm is Swift 2-8723.

NEW ELEVATOR STARTED

JOLLEY, IOWA — The Jolley Farmers Co-op Elevator Co. has started construction of a 70,000 bu. concrete grain elevator. It is located between the two flat steel storage facilities built two years ago. The three buildings are to be operated as one unit. The new elevator will have 15 grain bins. Completion date of the new construction will be from Aug. 15 to Sept. 1.

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"Once a farmer feeds Hubbard's Sunshine—he will always feed it," comments Mr. Zielske. "I sold Hubbard's Sunshine for 14 years as assistant manager at Ledyard, Iowa, and for nine years here at Lake Mills. I find that farmers like the economy of the Hubbard program and the results Hubbard Feeds produce.

"I know that Hubbard products are a favorite with our customers," Mr. Zielske goes on to say. "I've checked the records and find that the elevator here at Lake Mills has been handling Hubbard's Sunshine for 30 years."

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ITALIAN FEED MEETING—The third annual Mixed Feed Conference sponsored by the Italian Association of the Mixed Feed Producers (Assalzoo) in cooperation with the Soybean Council of America was held recently in Rome. Among the more than 200 persons in attendance were (left to right): first picture, Prof. Bartolo Maymone, conference chairman; Piero Borrone, president of Assalzoo, and Dr. J. L. Krider, vice president, Central Soya Co., Fort Wayne, Ind.; second picture, Dr. Adolino Di Giorgia, assistant to the director for Italy, SBC, and Dr. Elton L. Johnson, professor and head of the department of poultry husbandry, University of Minnesota, St. Paul. Dr. Johnson presented a paper on "Modern Concepts of Nutrition and American Breeds of Poultry," and Dr. Krider spoke on "U.S. Feeding Techniques for Growing-Finishing Butcher Hogs."

Sec. Benson Urges Farmers to 'Lead in Economic Integration'

BROADWAY, VA. — "Farmers should take the initiative and mold economic integration themselves to make sure it adequately serves their interests," Ezra Taft Benson, secretary of agriculture, told the Rockingham Poultry Marketing Cooperative recently.

Sec. Benson said that the development of the contract farming type of economic integration has raised serious questions. One of these, he said, is: Will this type of integration in this industry result in the disappearance of the independent poultry grower?

In his address, he urged farmers to "create new opportunities for yourselves through joint efforts."

Sec. Benson remarked on the cooperative's program whereby it advances money to individual farmers against poultry raised, in order that they can take advantage of all the cash prices for supplies.

"This puts individual producers back into the position where they belong, as individual growers, depending upon their own good judgment, with the aid of what counseling you can give them," he said. "This appears to be an attractive alternative to the type of complete integration which has been so prevalent in certain areas."

"One of the ways poultrymen are seeking to overcome their difficulties is being demonstrated in New England where the Eastern States Exchange established a promotion and marketing division, merging all of the poultry and egg associations of those states," Mr. Benson observed.

"Such a broad regional approach to marketing problems certainly reflects the enterprise and imagination of egg producers in this day when increasingly the need among farmers is to 'think big,'" Mr. Benson added.

He noted that change is the life blood of the American free enterprise system, but that changes bring problems and the poultry industry "is finding some of the adjustments difficult."

Farmers Must Adjust

"But over the long run," he said, "I am deeply convinced that it is better for farmers to make adjustments for themselves than for government to attempt to make their adjustments for them."

He pointed out some of the "tough problems" in the poultry industry last year, adding that the U.S. Department of Agriculture had cooperated with the industry in intensive merchandising campaigns and through buying and distributing dried eggs and turkeys, mostly to the school lunch program.

However, he said that it "did not, and must not, put the government into the poultry business." He added that in 1950, the government had been in the business when various unsound programs for eggs resulted in net realized costs to the Commodity Credit Corp. totaling $190 million. "Even more important, these attempts to support egg prices failed," he said.

He pointed out that the industry is making adjustments, noting that the laying flock on Jan. 1 was 4% below

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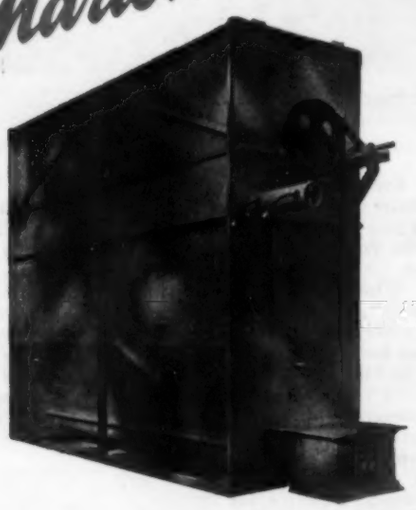

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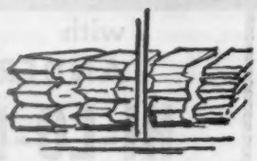

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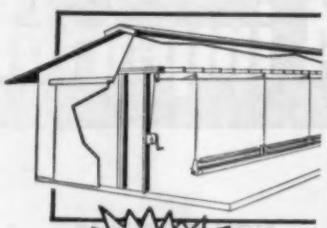

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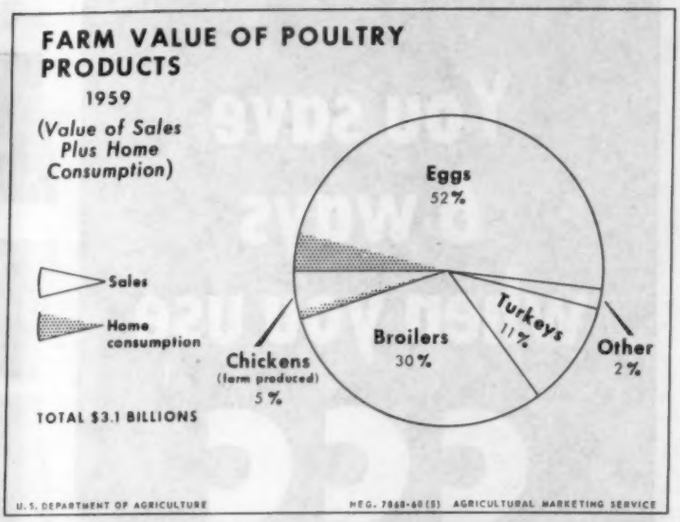

GROSS INCOME DOWN—Farmers' gross income from poultry enterprises in 1959 was down to the lowest level since 1944, the U.S. Department of Agriculture reports. Net income in 1959 was also low, but 1960 promises to be a more favorable year for producers of eggs, broilers and probably turkeys as well. At $3.1 billion, the 1959 combined value of sales plus home consumption of eggs, farm ("by-product") chickens, broilers, turkeys and other poultry was 12% lower than in 1958. For egg producers, and probably for broiler growers also, net incomes declined by an even greater percentage than the gross; but for turkey growers who sold their crop late in the season, 1959 was a more favorable year than 1958.

a year earlier. He added that broiler producers are making adjustments and turkey producers are also taking a more conservative approach to production.

"All of these adjustments are significant," he said. "Even though they are not entirely adequate in every instance, they are definitely steps in the right direction.

"We are convinced that the welfare of agriculture demands freedom to make adjustments—not controls—not regimentation."

He said USDA would stress markets and new uses, adding that it was "tremendously pleased with the results of our poultry export programs in Switzerland and Germany."

Sec. Benson explained the USDA position on chemicals used in the production and processing of food.

"Our first concern is the safety and wholesomeness of the foods produced, processed and marketed in the U.S.," he said. "I have traveled in many countries of the world during the past five years, and I say, without any qualification whatsoever, that I firmly believe our food supplies here in the U.S. are the safest, cleanest, most wholesome to be found anywhere on the face of the earth. The USDA wholeheartedly endorses the proper use of chemicals. We sincerely urge all producers, though, to conscientiously follow the instructions on the label."

He noted that not only have chemicals brought under control damaging poultry diseases, but they also have made poultry feeds immensely more effective.

"It is important that we tell these facts to the people," he said. "Chemicals are necessary. They are here to stay. On the other hand, it is absolutely vital that everyone who uses chemicals in food should use them in accordance with the instructions."

Sec. Benson praised the "forward-looking officials and agencies in Virginia" who recognized the problems caused by poultry diseases and got an early start in working on good management practices for control measures. "The result is that the condemnation rate on broilers was only nine-tenths of 1% here in Virginia last year—some 60% below the rate for the nation as a whole," he said.

Mr. Benson described farm cooperatives as being "economically, socially and spiritually sound."

NEW FEED FIRM

CASHION, ARIZ. — Palo Verde Grain Co. here in Maricopa County has filed articles of incorporation, listing $100,000 capitalization to carry on the "business of food commodities for the animal and poultry industry; buying, selling, manufacturing, merchandising and dealing at wholesale and retail in grain by-products of the milling industry."

Incorporators are Harry R. Snow, South Pasadena, Cal.; Dohn R. Buchanan, Cashion, Ariz., and David M. Haggard, Phoenix. Directors are these persons and William F. Bird, South Pasadena.

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EGG CANDLING LESSON—Carroll Dunham, vice president of the Northeastern Poultry Producers Council, gives a lesson in egg candling to Ingrid Vivian Carlson, Putnam, Conn., poultry princess of the Northeast, at the NEPPCO Egg Quality School held recently at Rutgers University.

Teamwork Stressed At Egg Quality School

TRENTON, N.J. — "More intensified teamwork between retailer, packer and egg producer holds the key to improved egg quality for northeastern housewives and greater egg consumption."

This was the theme hammered out by some of the nation's leading experts in both quality and merchandising at the 29th Egg Quality School held at Rutgers University, New Brunswick, N.J., under the sponsorship of the Northeastern Poultry Producers Council.

A total of 95 persons took part in the school, rated as one of the finest in the council's history.

One of the most searching studies into the need for closer cooperation between egg producer and retailer was presented by Dr. D. C. Goodrich of Cornell University. He underscored the need for a better working relationship in his presentation of detailed survey information on such items as retailer reactions to egg quality and the cost of producing this extra quality on the farm.

Others, like Steven Urner of the Poultry and Egg National Board and John C. Huttar of the Cooperative G.L.F. Exchange, Ithaca, N.Y., interpreted the advantages of nearness to market and intensified promotion in capturing a larger share of the market for northeastern poultrymen.

Lecture sessions were combined with a heavy schedule of laboratory classes where students participated in studies of egg quality under the eyes of a team of some 30 instructors. This year's classes averaged about three students per instructor to insure close supervision.

One of the high points of the school came with the annual picnic, held at the Log Cabin located on the Rutgers horticultural farm. Joining the council and the university in the sponsorship of the school were the New Jersey and the U.S. Departments of Agriculture.

To Manage Mill

GARDEN CITY, KANSAS — Eugene Maurer, a native of Montezuma, Kansas, is the new manager of the feed and seed cleaning mill of the Garden City Co-op Equity Exchange. He was graduated from Kansas State University, Manhattan, Kansas, where he specialized in feed technology.

He came to Garden City from the milling operation at the Staley research farm at Liberty, Mo.

Results of Clemson Molasses Tests Given

CLEMSON, S. C.—Feed trials conducted in South Carolina have shown that molasses can adequately and economically substitute for one-half of the concentrate of milking cows when the cows are fed hay as the basic forage.

These results were reported by Dr. W. A. King of the Clemson College dairy department during the annual meeting of the American Dairy Science Assn.

Feed trials were conducted with milking cows to compare the feeding of blackstrap molasses in a trough with molasses poured on hay. Alfalfa, coastal, and oat hays were fed in three separate tests.

The molasses consumption was controlled at 8 or 9 lb. per cow daily with the concentrate reduced to one-half. The protein content of the concentrate was increased to satisfy the protein requirement.

The hays were fed free choice plus 30 lb. of corn silage per cow daily. Milk production in all groups by types of hay fed was almost identical. The feed costs per 100 lb. of 4% fat-corrected milk were slightly less for the molasses groups.

In other tests, Dr. King reported that eight groups of yearling dairy heifers were fed oat hay or coastal Bermuda grass hay free choice to compare 5 lb. ground shelled corn with supplements of blackstrap molasses and urea-molasses fed free choice in a trough. Cottonseed meal was fed to adjust the protein intake.

Both 3.5% and 4% urea-molasses were used. The average consumption of the molasses was 5.9 lb. per heifer daily with 6.2 lb. for the urea-molasses. The average daily gain over the 84-day experiments was 1.46 lb. with shelled corn, 1.34 lb. with the molasses and 0.99 lb. with the urea-molasses. The gains were significantly lower for the urea-molasses rations.

Green-Chop Feeding Trials Reported

LAS VEGAS, NEV.—Trials at the Southern Nevada field station have shown that under certain conditions prevailing in that part of the state it can be profitable to grow cereal grains for green-chop feeding.

The station reported that barley yielding 18 tons of forage per acre, valued at $6.85 a ton, showed total returns of $123.30 when fed as green-chop in station trials.

Total costs were $64.05 per acre. This left a profit of $59.25 an acre.

Cost items considered were land preparation, fertilizer application, irrigation, seed, planting, ditch maintenance, taxes, truck use, returns on investment and land leveling and harvesting costs.

Since the crop only occupied the resources five months of the year, the fixed cost items were prepared for that time.

Add Schenley's Corn Distillers Dried Grains with Solubles to your Dairy Cow mix

MOTHER KNOWS BEST

She knows that her calf is well taken care of if the SCHENLEY's SOLUDRI is part of the feed-manufacturer's milk replacer.

Dairy cows also like SCHENLEY's CORN DISTILLERS DRIED GRAINS WITH SOLUBLES as a popular protein supplement. It is a favorite ingredient in concentrate mixture for cattle. Both SCHENLEY's SOLUDRI and CORN DISTILLERS DRIED GRAINS WITH SOLUBLES include GFF, the Grain Fermentation Factor. They are always fairly and realistically priced. Write or wire to-day.

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FEED & GRAIN DIVISION
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Telephone MAin 1-3170

Member of The Distillers Feed Research Council

WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

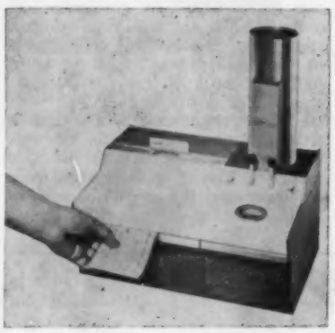
DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7029—Poultry Health Calendar

Dr. Salsbury's Laboratories has developed an aid to encourage producers to set up a complete health program for poultry. Called a "Poultry-Health Calendar," the aid can be personalized for each flock owner. Product-use suggestions to fit the producer's flock can be made by drawing a line from the product name to the date he should use it. For more information, check No. 7029 on the coupon and mail.

No. 7030—Moisture Recorder

Burrows Equipment Co. announces its new moisture tester which incorporates a number of scientific advances to make the operation completely automatic. According to company literature, tests for each type of grain are specially programmed by a printed circuit card which is inserted into the recorder. A small electronic sensing device located in the test cell takes the temperature of the grain automatically and relays it to the electronic brain. A test cell corrects for any variations in weight per bushel. All factors are fed into the electronic circuit and computed by the instrument. Next, a motorized drum revolves and comes to a stop at the correct moisture percentage which may be read visually on a lighted dial. A feature of the recorder is a special printing device to record the moisture percentage on a scale ticket or other slip of paper if desired.



The recorder uses a 250 gram sample for all grains. The instrument operates on the principle of dielectric measurement using high frequency radio waves to penetrate the grain sample. A balanced electronic circuit operating like a mechanical scale assures accuracy, the company says. An electronically controlled servo motor balances the circuit at all times, providing an automatic read out of moisture content and automatic self-checking each time the test cell is emptied. For more information, check No. 7030 on the coupon and mail.

No. 7035—A and D Fortifier

Increased stability is claimed for Peter Hand Foundation's new fortifier, "Improved Vitamin A & D_3," now being used in all of the company's program premixes. The product was tested in the company's laboratories and was found to be significantly better, especially in pellets, the company says. The research disclosed that the fortifier, in addition to being more stable, is resistant to destruction following pelleting of mash feeds and when in intimate contact with minerals. For more information, check No. 7035 on the coupon and mail.

No. 7031—Coding, Marking Unit

Thomas Engineering Co. announces the Model 603 Teko Coder, which allows production coding, marking and printing in three colors at once. The machine prints a legend 3 in. high and up to 15 in. long, using as its ink supply three 1 in. Porelon plastic

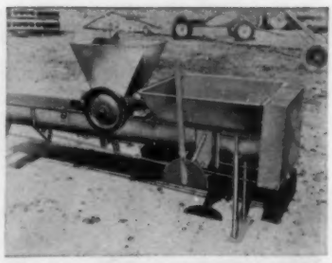
rollers. By varying the colors of Porelon used, packagers may have simultaneous three-color printing. The Porelon plastic cylinders of the coder hold enough ink in suspension for printing of up to 150,000 legends. These rollers eliminate the need for fluid inks, solvents, ink fountains and reservoirs, transfer rollers and the problems of their maintenance. For more information, check No. 7031 on the coupon and mail.

No. 7039—Chicken, Turkey Wormer

Specifide, Inc., has announced that "Trimintic," a triple chicken and turkey wormer, is now available in crumble form. The new form is in response to consumer demand, the company says, because they are easy to add to the feed either at the mill or farm level. Trimintic is a combination of three worming compounds. One pound of the product mixed with the regular mash feed will worm 400 chickens or 200 turkeys over six weeks old, the company says. For more information, check No. 7039 on the coupon and mail.

No. 7037—Protein Meter

The "Blend-O-Matic" protein meter that eliminates hand mixing of feed supplements in automatic feeding systems has been announced by Mogler Farm Industries, Inc. The unit can be set to add the desired proportions of supplements to automatically make exactly any ration desired, the company says. It has up to 100 lb. capacity for any type of supplement from fine meal to molasses pellets. It can also be used for shell corn or rolled corn or any free-flowing grain. Adjustments can be made to empty the hopper in two minutes or up to a



half-hour, the company says. The unit fits any automatic feeding system or any place where grain or supplement metering is needed. It comes with a ¼ h.p. fan-cooled sealed motor. A "Bag Buster" feature inside the hopper rips open sacks and drops contents into hopper. For details, check No. 7037 on the coupon and mail.

No. 7033—Premix Program Booklet

Thompson-Hayward Chemical Co. announces the availability of the "T-H Premix Program Booklet," which describes the company's line of packaged premixes. Exact compositions are given along with suggested rations. The 28-page booklet covers premix programs for poultry, turkeys, swine and ruminants. For copies, check No. 7033 on the coupon and mail.

No. 7032—Expanded Line

The addition of two new sizes to its line of type "KO" vibrators has been announced by the Cleveland Vibrator Co. The one-piece air vibrators keep materials flowing from bins, chutes and hoppers, the company says, and the one-piece construction eliminates unnecessary bolts, an end plate and a mounting plate. Air consumption is also less, the company says. The line now includes a 1⅝ in. and 5 in. size with long stroke, heavy

duty pistons in the larger models. Cylinders are of steel or aluminum. All units can be equipped with automatic lubrication and air filter units. For more information, check No. 7032 on the coupon and mail.

No. 7034—Fall Promotion

A fall consumer promotion that includes a special offer on a Swiss-made antimagnetic wrist watch, was introduced by the Agricultural Divi-

Send me information on the items marked:

- ☐ No. 7029—Poultry Health Calendar
- ☐ No. 7030—Moisture Recorder
- ☐ No. 7031—Coding, Marking Unit
- ☐ No. 7032—Expanded Line
- ☐ No. 7033—Premix Program Booklet
- ☐ No. 7034—Fall Promotion
- ☐ No. 7035—A and D Fortifier
- ☐ No. 7036—Automatic Proportioner
- ☐ No. 7037—Protein Meter
- ☐ No. 7038—Vitamin K for Blood Spots
- ☐ No. 7039—Chicken, Turkey Wormer

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

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sion of Chas. Pfizer & Co., Inc. The firm is providing, through dealers, a chance for poultry raisers to purchase the imported watch at two-thirds off retail price. The purchase price plus the package label from any size of Terramycin Egg Formula or Terramycin Poultry Formula, qualifies for the watch. For details, check No. 7034 on the coupon and mail.

No. 7038—Vitamin K For Blood Spots

Heterochemical Corp. has announced the completion of a series of field trials conducted to test the value of "Stabilized Hetrogen K" in reducin the incidence of blood spots in eggs. The firm has prepared a technical report on one of the trials which shows that there was a significant reduction in the percentage of blood spots produced by commercial layers in cages when 4 gm. of Heterochemical's vitamin K product were added per ton of feed. A company spokesman said that although some previous research showed little or no benefit from vitamin K in controlling blood spots, "we believe the greater stability of our product has actually increased the amount of this vitamin available to the bird from the feed to which it has been added." Further work is under way. Applying some economics to the technical report, figures were presented indicating

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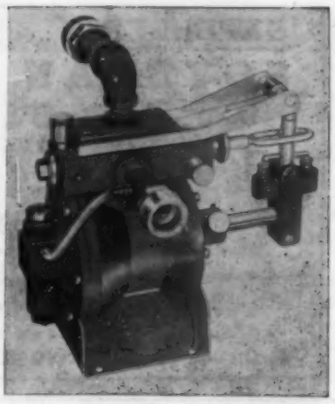
that, with a reduction of 4.7% in blood spots and assuming certain price and production data, the spending of 18¢ to add 4 gm. of Stabilized Hetrogen K to a ton of feed would give the grower an extra profit of $4.10 per ton. For further information, check No. 7038 on the coupon and mail.

No. 7036—Automatic Proportioner

A new device that automatically and precisely introduces water soluble drugs, chemicals and biologics into the water line, has been introduced by Vineland Laboratories, Inc. The Vineland "Crown Proportioner" delivers precisely 1 oz. of medication or chemicals to every gallon of water without pumps, motors or electricity. It operates on any water line with 5 lb. pressure or more, and maintains exact proportions of medications even when pressure fluctuates, the company says. Changes from one medication require only a three-minute flushing of the device. It has a capacity of 180 gal. an hour. For information, check No. 7036 on the coupon and mail.



Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7992—Storage structure bulletin, Sprout, Waldron & Co., Inc.

No. 7993—Turkey waterer, Big Dutchman Automatic Poultry Feeder Co.

No. 7994—New type nest, Oakes Manufacturing Co.

No. 7995—Mathematics, nutrition information, Lime Crest Research Laboratory, Lime Crest Products Corporation of America.

No. 7996—Bag holder bulletin, Richardson Scale Co.

No. 7997—Dust separator bulletin, Day Co.

No. 7998—Rebuilt hammers, the Wall Colmonoy Corp.

No. 7999—Palletizing method, Power-Curve Conveyor Co.

No. 7000 — Nesting system, Storm Industries, Inc.

No. 7001 — Mobile feed mill, Seco, Inc.

No. 7002 — Conveying system brochure, Flo-Tronics, Inc.

No. 7003—Coder, printer, Thomas Engineering Co.

No. 7004 — Blower unit, Sutorbilt Corp.

No. 7005—Newcastle vaccine, Delaware Poultry Laboratories, Inc.

No. 7006 — Animal health display, Chas. Pfizer & Co., Inc.

No. 7007 — Fly bait syrup, Myzon Laboratories.

No. 7009 — Table feeder bulletin, B-I-F Industries.

No. 7010—Pit scale, Thurman Scale Co.

No. 7011—Publication on switches —Micro Switch, division of Minneapolis-Honeywell Regulator Co.

No. 7012 — Hopper bulletin, Richardson Scale Co.

No. 7013—Steel building booklet, Stran-Steel Corp.

No. 7014 — Track scale bulletin, Cardinal Scale Manufacturing Co.

No. 7015 — Flow meter, Industrial Processes, Inc.

No. 7016 — Grain unloading auger, Wyatt Manufacturing Co.

No. 7017—Rotary air compressors, Fuller Co.

No. 7018 — Worm, germ drench, Right Weight Co., Inc.

No. 7019 — Market bulletin, Jacobsen Publishing Co.

No. 7020—Pig holding unit, Caswell Manufacturing Co.

No. 7021 — Feed weighing, Scales, Inc.

No. 7022—Bag, bulk unit, Sudenga Industries, Inc.

No. 7023 — Jackknife premium, Chas. Pfizer & Co., Inc.

No. 7024—Mobile management program, Barnard & Leas Manufacturing Co., Inc.

No. 7025—Sampling probe, Seedburo Equipment Co.

No. 7026 — Van tank, Transicold Corp.

No. 7027—Bulk material handler, Finco, Inc.

No. 7028 — Automatic calf feeder, K & K Manufacturing Co.

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West Coast—Parts Depot: H. H. Hansen, Post Office Box 1626, Fresno, Calif., ADams 3-6135

Colorado & Utah—Parts Depot: Longero, Inc., 3410 Brighton Blvd., Denver, Col. AComa 2-2514

Mexico—Amerex Ingenieros, S.A., Apartado Postal 30150, Mexico, D.F., Tel.: 111516

To supply plant owners extraction equipment is one thing but to service that equipment is quite another. No one appreciates this fact more than The V. D. Anderson Company. That's why we have divided the country up into areas, each with its representative and parts depots ready to render prompt service. Whether your problem is operational, additional Expellers, supplementary equipment or parts, the men who man these areas and depots can help you. Stocked at parts depots are Anderson genuine parts, made to exacting engineering and material specifications—the same parts used in new Expellers. Your Anderson area representatives and parts depots are ready to serve you.

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TOP PROFIT IS IN THE BAG

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Small wonder TRITHIADOL, Sterwin's superior, "use-proved" coccidiostat, gives top profits to broiler growers. For with TRITHIADOL, *control* goes hand in hand with *feed conversion*.

TRITHIADOL is the *only* coccidiostat that effectively controls *all* important species of coccidia while giving top feed conversion.

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5. Displays no adverse effects on egg production, shell or interior quality.
6. Comparatively no effect on hatchability or fertility.
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9. Effectively reduces tapeworm and large roundworm burden—a substantial aid in any worm control program.

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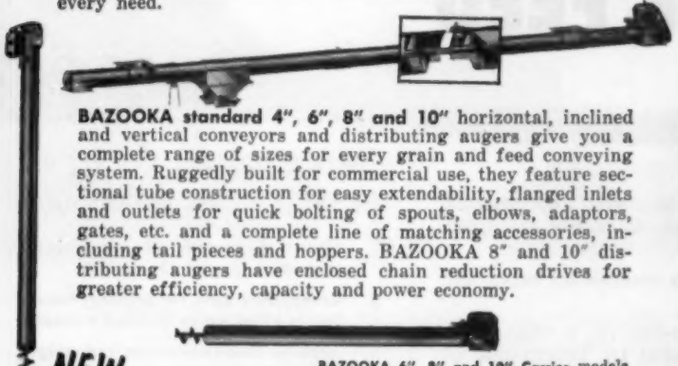
One of the country's oldest and largest manufacturers of vitamin and trace mineral products.

There's a BAZOOKA Reg. U. S. Pat. Off. AUGER CONVEYOR
BUILT TO DO IT Better

For every grain elevating, conveying or distributing job, there's a standard BAZOOKA auger designed and built to do it. Only BAZOOKA offers you so complete a line of sizes, capacities, features and accessories, and such ease of adaptation to virtually every need.



BAZOOKA standard 4", 6", 8" and 10" horizontal, inclined and vertical conveyors and distributing augers give you a complete range of sizes for every grain and feed conveying system. Ruggedly built for commercial use, they feature sectional tube construction for easy extendability, flanged inlets and outlets for quick bolting of spouts, elbows, adaptors, gates, etc. and a complete line of matching accessories, including tail pieces and hoppers. BAZOOKA 8" and 10" distributing augers have enclosed chain reduction drives for greater efficiency, capacity and power economy.

NEW 10" BAZOOKA Reg. U. S. Pat. Off.

BAZOOKA 6", 8" and 10" Carrier models have a capacity of up to 4,000 bushels per hour, can be elevated almost vertically, extended by adding sections. The new 10" BAZOOKA C100, available in lengths to 62', has a bottom double-chain reduction drive, double crank handles for easy elevation and lowering. The 6" and 8" BAZOOKA Carrier models feature enclosed chain head drive for positive, vibration-free power transmission. ALL BAZOOKA Carrier models available with electric, gasoline or PTO drive.

NEW BAZOOKA Self-Propelled Swinging Hopper (left) is ideal for use with carrier BAZOOKAS for transfer from trucks in driveways, bin sites, other hard-to-maneuver places. Many other uses.

BAZOOKA 4" and 6" Portable Models with sealed head bearings are built for heavy duty work. Famous 4" Super-Scooper available in standard 11' and 16' lengths; BAZOOKA H60 (6") unit has built in spout. Basic 12' length, 5' and 10' extensions.

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HATCHERY BUILDING—Shown is the exterior of the Fellows Hatchery building operated by Baird and Millard Fellows with their father and mother, Mr. and Mrs. Aubrey Fellows.

Missouri Hatchery Has Egg Marketing Plan

By Al P. Nelson
Feedstuffs Special Writer

A hatchery can play an important part in a quality egg marketing plan.

This is shown by the Fellows Hatchery, Salisbury, Mo., operated by Baird and Millard Fellows with father and mother, Mr. and Mrs. Aubrey Fellows, since 1928. Both men are anxious to provide market outlets for the poultrymen who raise hatching eggs for them, and so they participate in an egg marketing plan during the months when the hatchery does not buy all the egg output of certain poultrymen.

Under the plan, the Fellows Hatchery trucks eggs to the St. Louis market about once a week. Shipments vary from 80 to 100 cases a week from about 20 producers. The egg producers bring the eggs to the hatchery, but occasionally the hatchery picks up some eggs.

The eggs are graded by the St. Louis market source and the egg producer gets back a report showing how his eggs graded. For its part in the program, the hatchery charges only 3¢ per dozen which just about pays for the trucking charge.

"This program is more of an accommodation to our egg producers than it is a profit-making venture for us," states Baird Fellows. "Very often there is a difference between the local and St. Louis markets of 3-7¢. When the price ratio falls too low, as it does seasonally now and then, we discontinue shipping the eggs and wait until prices are better.

"We have been marketing eggs for producers for quite a few years now. The producer must keep no particular breed of hen, although many do have DeKalbs. We hatch DeKalbs here at Salisbury."

Eggs for the St. Louis market must be large white eggs, and they must be spotlessly clean, states Mr. Fellows. They must be gathered at least three times per day and must be cooled, preferably in a walk-in cooler. However, some producers cool by means of an air-conditioned unit in the basement.

The hatchery tries to confine the plan to poultrymen who produce hatching eggs for them. These poultrymen are good operators, have high standards and realize the methods it takes to produce quality eggs for market.

Last year the hatch amounted to 175,000 chicks. This year, the firm has several growers raising started pullets for it. At the time this writer visited the hatchery, it had 3,600 16-week-old pullets on hand which are

SERVICE—Baird Fellows lifts a bag of feed into a customer's car trunk.

FEED WAREHOUSE—This is the Fellows Hatchery feed warehouse located across the street from the hatchery building. Note the large sign above the warehouse.

He takes a big bite... out of your profits!

STOP HIM COLD WITH

Tetrakil or Tetrafume

Each time a weevil bites into your stored grain he takes a bite out of your profits. No matter what kind of grain you store, insect infestation will reduce the weight and lower the grade.

Here's the sure way to prevent this — wipe out insect infestation with Douglas Tetrakil or Douglas Tetrafume. Then you can wait for more favorable prices without worrying about bugs eating up the profit.

Tetrafume and Tetrakil form toxic gases that quickly paralyze and suffocate insects. When poured on grain they form fire-proof, heavier-than-air gases that penetrate the grain mass, killing or driving out all stages of insect life. Yet they are harmless to grain itself.

Tetrafume and Tetrakil differ principally in one respect—the speed of vaporization. Fast acting Tetrafume is made for insect control in concrete and steel elevators, tight wooden elevators and boxcars; and grain conditioning in all types of elevators and boxcars.

Tetrakil, with its slower rate of vaporization is designed to kill insects in grain stored in loosely constructed facilities where gas leakage is a factor — older wooden elevators and all types of emergency and flat storage.

Here's The Easy Way to Check The Condition of Your Grain

Take advantage of Douglas' free Grain Inspection Service. You receive a complete inspection from headhouse to subbasement and surrounding trackage. After inspection the Douglas Grain Sanitation Specialist gives you his recommendations for correcting your specific sanitation problem. There is no obligation—no charge. Mail the coupon below today.

For Maximum Protection Against Costly Insect Attack—

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Grain Sanitation Division

Douglas CHEMICAL COMPANY

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☐ I would like to have the inspection made within 30 days____ 60 days____ (check one)

☐ Please send copy of 1960-61 Grainman's Insect Calendar. I am storing_____bu. of_____(kind of grain)

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Title_____Address_____

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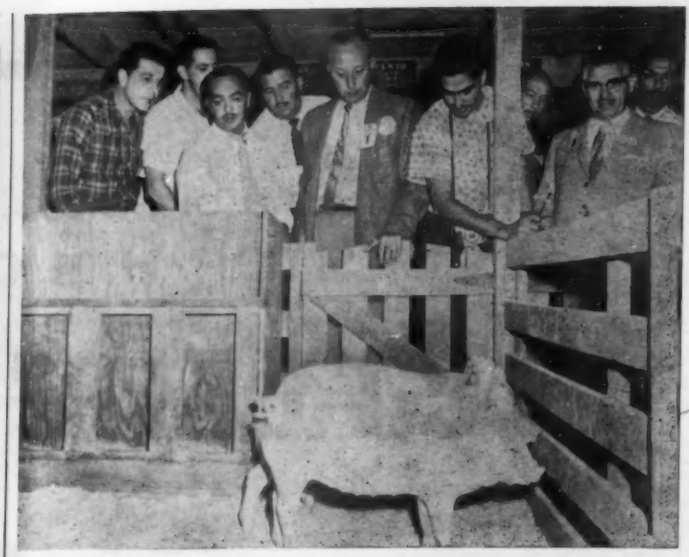

MEXICAN VISITORS—This group of Mexican farmers and feed dealers, who visited Ralston Purina Co. facilities in Missouri, is shown in one of the swine units at the Purina Research Farm near Gray Summit, Mo. They made the trip in order to see the latest techniques in feeding and managing livestock and poultry. After visiting the research farm, the visitors spent the following day at the company's general office and laboratory in St. Louis.

New DAY "RJ" Dust Filter
CONTROLS DUST
SAVES DOLLARS

only 3 moving parts

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Because of its new, simplified design the DAY "RJ" dust filter will save you many dollars on initial investment, installation, operation and maintenance. Some of the important new construction features of this dust filter are: a new, quick-opening reverse-air, counter-flow valve for maintaining filter media porosity; a new, reverse-air pressure blower arrangement, and new, air tight, yet quickly opened inspection doors.

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"There are some farmers who just don't want to raise chicks, because they have plenty of other work to do," reports Mr. Fellows. "But some of them do want started pullets, and we are trying to develop this business in this part of the state."

Mr. Fellows states that there is no doubt that the egg marketing plan is building good will for them in the area, and aids in selling feed. The company sells Stampers Feed produced at Moberly, Mo. Poultry, cattle, hog and dairy feeds sell pretty well in this area.

The firm has its hatchery on one side of the street and its feed warehouse in a building across the street. In both cases, the brand of feed gets prominent display. All feed sold is bagged at Stamper mill. However, if a customer wants bulk feed this can be dispatched to him from the Stamper plant at nearby Moberly.

The hatchery is currently cooperating with other merchants in Salisbury in staging a "Crazy Daz" promotion. The idea is for each participating firm to offer an advertised bargain on a certain day.

The local newspaper distributes its Crazy Daz section throughout a wide area, and this is bringing more customers to Salisbury on that day. The campaign will continue one day a week for six weeks.

"The merchants often try merchandise promotions of this type," states Mr. Fellows. "Such advertising keeps customers in the trade area aware of the products and services that can be obtained in this town."

John H. Sanders Heads Eastman Sales

NEW YORK—John H. Sanders has been named sales manager of the chemicals division of Eastman Chemical Products, Inc., Kingsport, Tenn.

John H. Sanders

Mr. Sanders' appointment was announced by S. E. Palmer, first vice president of the company, and Dr. J. E. Magoffin, vice president in charge of the chemicals division.

Mr. Sanders, at the time of his promotion, was a regional sales manager in the E. C. P. I. chemical sales division with headquarters in Cleveland, Ohio. He succeeds Guy A. Kirton, who will concentrate on international sales of Tennessee and Texas Eastman products.

Dow Announces DL-Threonine Ready

MIDLAND, MICH. — Immediate availability of DL-threonine in developmental quantities has been announced by the Dow Chemical Co.

Dow said the addition of this product to its line completes a program of many years' standing toward supplying the DL-forms of all the essential amino acids, at reasonable prices, for research and development.

Relatively little nutritional research has been done with threonine, although it is known that rice protein, in particular, is deficient in this amino acid.

Dow has secured an exclusive license for the production and sale in the U.S. and Canada of DL-threonine produced by a process owned by the Ajinomoto Co. of Japan and on which U.S. and Canadian patents are pending. This process permits the efficient manufacture of DL-threonine essentially free of the allo isomers.

Further information and samples of DL-threonine are available from Technical Service and Development, the Dow Chemical Co., Midland.

Wirthmore Awards Three Scholarships

WALTHAM, MASS.—Three young men, each planning a career in the agricultural sciences, have been awarded Wirthmore Merit Scholarships under the National Merit Scholarship Program, announced Harry A. Grant, director of agricultural relations for Wirthmore Feeds, Inc., Waltham.

Those who will enter college this fall on Wirthmore scholarships are William Ronald Studebaker, New Carlisle, Ohio, who plans to attend Ohio State University; William Clow Jolly, Salem, N.Y., who will enter Cornell University, and Richard Michael Jane, Bay City, Mich., who will take up his studies at Michigan State.

Second semester high school juniors or first semester seniors who intend to follow a career in the science of agriculture may apply for a Wirthmore Merit Scholarship through their local high schools. Applicants must reside within the 18-state area of Wirthmore distribution which includes Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, North Carolina, South Carolina, Vermont, Virginia and West Virginia.

New Export Record For Feed, Livestock

WASHINGTON—Secretary of Agriculture Ezra Taft Benson announced that the volume of U.S. agricultural exports in the 1960 fiscal year that ended June 30 set a new record.

The volume of agricultural exports that moved under cash sales also was the largest in history, Mr. Benson said.

On a value basis, export sales for dollars in fiscal year 1960 came to a near-record $3.3 billion, compared with $2.4 billion the previous year. The increase in export sales for dollars was largely due to expanded marketing of cotton, corn and oats, soybeans, vegetable oils, fruits and fruit juices, livestock, and livestock products.

On a value basis, total agricultural exports for the year appear to have reached $4.5 billion and may go as high as $4.6 billion.

Export totals for the year just ended show record shipments abroad of feed grains, soybeans, protein meal, poultry meat, tallow, and cottonseed and soybean oil. Rice exports were second largest in history, and lard exports were second largest since World War II. Cotton exports were twice as large as for the previous year. Wheat exports substantially exceeded last year's high level.

Kentucky to Sponsor Egg-Grading Classes

FRANKFORT, KY. — The Kentucky State Department of Agriculture is planning a series of classes on how to grade eggs as a result of confusion over Kentucky's new egg grading law.

The Albert C. Smith Egg Bill need not stop sales from small farms to store operators, a department official said, and added that this is what has been happening since the law went into effect last month.

Gordon O'Banion, superintendent of egg marketing inspectors, said dates will be set later for the classes.

The law prohibits sales of ungraded eggs to retailers, consumers and institutions. Mr. O'Banion said independent grocers can buy eggs from small farmers and sell them if: (1) The grocer sells the eggs to an egg handler or wholesaler who, in turn, will grade them, and (2) the grocer grades the eggs before they are sold to a consumer.

Egg producers, he said, are exempt from the law, but all others who sell eggs come under the law and must be licensed as a grader.

Vibriosis Study Grant

NEW YORK — The University of Idaho has accepted a grant from American Cyanamid Co. to conduct research in an effort to develop a vaccine to offer greater protection against vibriosis.

The work is under the direction of Dr. Floyd W. Frank who is equipped at the Caldwell Agricultural Experiment Station to prepare vaccines from vibrio organisms obtained from other researchers or from field cases. These vaccines will be used to immunize sheep which will be challenged later to determine immunity.

Necessity of Fortified Rations in Heat Noted

MANHATTAN, KANSAS — Laying hens need more highly fortified rations during the stress of hot summer weather, Dr. Paul Sanford, Kansas State University, points out.

Doubling the level of vitamin A has resulted in increased egg production and improved egg shell quality, Dr. Sanford notes. The increased vitamin A may, he said, be supplied by provitamin A from high quality dehydrated alfalfa meal or by use of stabilized vitamin supplements.

REPORTS ON WORKERS

BURLINGTON, VT. — Approximately 50% of all workers in Vermont are employed in agriculture and related industry, including sales of feed, fertilizer, seeds and equipment, it was reported here by Robert P. Davison, director of the University of Vermont extension service.

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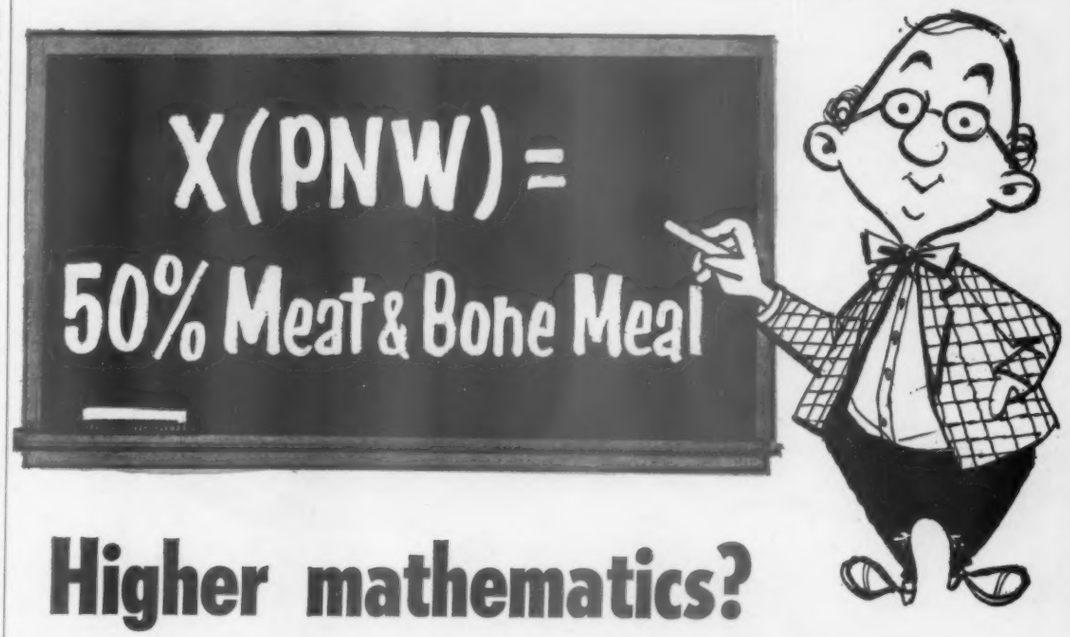

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How Much Fat Content Should Calf Milk Replacers Have?

NEW YORK — How important is the amount of fat provided in a calf's diet? Dr. William Monson, director of technical service for The Borden Co., in New York, recently accumulated the following research on this subject:

The calf's natural food is cow's milk. Whole milk contains an average of 4% fat, 4.8% carbohydrate, 3.5% protein, 0.7% ash, and 87% water. This will of course do an excellent job of raising calves. The rate of growth and development can be regulated by the amount of whole milk fed each day.

On a dry basis, the above analysis would be 30.8% fat, 36.9% carbohydrate, 26.9% protein and 5.4% ash. The butterfat provided by whole milk provides a large portion of the calories in such a diet.

The desire to sell this butterfat led initially to the use of skimmed milk for feeding calves for herd replacements. It has been found that such a ration provides good nutrition if supplemented with vitamins A and D.

It has further been demonstrated by many workers that the addition of an antibiotic to such a diet is beneficial in improving gains and aiding the calf in overcoming digestive disturbances.

The growth rate of calves fed supplemented skimmed milk was not as great as those fed whole milk. If we consider that fat contains more than twice as many gross calories per gram than carbohydrate and protein, it appears that the difference lies in the energy intake. Actually skimmed milk contains approximately one half the calories of whole milk.

A recent paper by R. S. Adams, et al. (1) from Minnesota, illustrates the point. All calves were fed colostrum for 2 or 3 days followed by whole milk until they were 14 days of age. They were then put on the experimental milks for the next 76 days as the only source of nutrients with the exception of vitamin, mineral and antibiotic supplements given orally.

Calves fed whole milk gained 1.66 pounds per day for the 76-day period compared to 0.88 pound per day for the calves fed skimmed milk. It is of interest that about one-half of the growth rate was obtained on a ration containing about one-half the concentration of gross calories.

Another group of calves were fed skimmed milk fortified with sufficient non-fat dried milk solids to make the diet isocaloric with whole milk and the various filled milks tested. Calves fed the fortified skimmed milk gained 1.92 pounds per day.

This would indicate that the difference in calf performance between whole milk and skimmed milk is due to the difference in the extra calories provided by the fat.

Is Fat Required?

The question then arises: Is fat actually required by calves? The work reported by Lambert, et al. (2) from Iowa definitely establishes that calves do require some fat and that it is probably an essential fatty acid provided by the fat that is needed. Calves fed a "lipid-free," semi-synthetic milk showed a marked retardation of growth after three weeks. At 8 weeks about 50% of the calves showed the following symptoms: scaly dandruff; long, dry hair; excessive loss of hair on the back, shoulders and tail; and diarrhea.

The deficiency syndrome was promptly alleviated by supplementing with butter oil, hydrogenated soybean oil plus lecithin, or the methyl esters of a combination of equal parts of linoleic and oleic acids. The results suggested that linoleic acid is the important one. This would agree with work reported with rats showing that one or more of the following are essential: linoleic, linolenic, and arachidonic (Turpeinen (3) Rieckehoff (4)).

The requirement for essential fatty acids must be low since skimmed milk diets containing 0.1% fat (0.77% on a dry basis) have been fed with no reports of the deficiency syndrome mentioned above.

Consider Growth Rate

It appears, therefore, that the amount of fat added depends to a degree on the growth rate desired. This is further influenced by the cost of raising calves for replacement purposes. Since butterfat is costly, other less expensive fats should be considered.

Considerable work has been done on determining the effects of various types of fat. Certain liquid vegetable oils such as soybean oil and cottonseed oil have been shown to be detrimental to the health of calves when added to calf milk replacers. (5,6,7)

The use of hydrogenated soybean oil (5), cottonseed oil (7), palm oil (8) and the use of hydrolyzed cottonseed oil methyl esters by Leighton and Reiser at Texas agricultural experiment station have given good results when added to calf milk replacers. Butter oil, tallow, and grease have given good results. Hopkins et al. (9) reported that the inclusion of lecithin to calf milk replacers containing tallow, coconut fat, or grease improved the utilization of these fats.

There have been several reports on the optimum level of fat to use. Lassiter et al. (10, 11) fed calf milk replacers containing 0, 10, 20 or 30% of a commercial vegetable fat preparation mainly from cottonseed oil. Digestibility of ether extract, but not other proximate constituents, was significantly higher on all rations with added fat. There was no difference among the 10, 20 or 30% levels, however.

The growth rate among all four groups was not significantly different although there was less scouring by calves given milk with added fat. Less concentrates were eaten by calves getting milk containing 20 or 30% fat.

Olson et al. (12) reported on the use of stabilized lard in calf milk replacer diets at levels of 0, 5, 10, 20 and 30%. Liquid feeding was discon-

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tinued after 42 days. A mixture of calf starter and coarsely ground hay was offered from the 5th day. The average daily gain from 5 to 42 days for the various levels of fat was 0.76, 0.79, 0.85, 0.86 and 0.93 pound respectively. Scouring rate was higher with the calves on the fat free diet, but no significant differences occurred among other treatment groups.

Some of the work has been mentioned which illustrates particular points. A review of the entire literature indicates that it is possible to grow healthy calves at moderate rates that will be good herd replacements with calf milk replacers containing 1-3% fat on a dry basis. The use of calf milk replacers containing 8-10% added fat will produce faster gains and may result in better appearance. Since this is an important factor to dairy farmers, we have seen a marked increase in the number of calf milk replacers containing this higher level of fat.

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Merck Publishes Withdrawal Data

RAHWAY, N.J.—The chemical division of Merck & Co., Inc., because of the recent increased emphasis on the enforcement of the withdrawal periods for medicated feeds prior to marketing of animals, has published the following information about some of its products:

Nicarb, S.Q., and GlyCamide require a four-day withdrawal period.

HepZide requires only one day discontinuance.

As an exempt antibiotic, there is no withdrawal period indicated for Pro-Strep.

If any of the above drugs is combined with an arsenical, a five day discontinuance period must be observed.

Install Equipment

DES MOINES—Hot Spot Detector, Inc., has reported the installation of new equipment at 48 different sites covering 16 states and Mexico.

The most installations, 13, were made in Nebraska, followed by Texas with 7; Kansas, 6; Indiana, 4; Missouri, 3; Iowa, California, Michigan and Ohio, 2 each, and Mississippi, Oklahoma, Tennessee, Mexico, Georgia, Arkansas and Wisconsin, 1 each.

Dr. N. Kramer Joins Paymaster Farm

LUBBOCK, TEXAS — Dr. N. W. Kramer, one of the developers of hybrid grain sorghum, is quitting his post at the Texas Experiment Station near Lubbock to accept a position with the Paymaster Farm at Aiken, Texas.

Dr. Kramer will be on the research staff, and will confine most of his work to further improvement of hybrid grain sorghum.

Dr. Kramer has become well known in grain sorghum circles and is responsible for many of the strains now planted in the Southwest.

COTTON MERCHANT DIES

HELENA, ARK.—George S. Goldsmith, 37, director of the Helena Cotton Oil Co. and a prominent cotton merchant and planter, died recently at his home following a heart attack.

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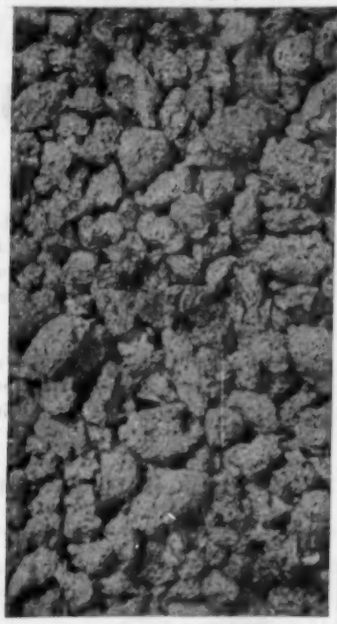

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Ohio Group Told—

Poultry Opportunities Are Good, But Problems Involved, Including Financing

COLUMBUS, OHIO—Opportunities for poultry production in Ohio look good, but turning these opportunities into profits isn't going to be easy.

That is the combined opinion of a feed man, a banker, a poultryman and a financing agency representative who spoke at a Poultry Serviceman's School at Ohio State University.

Commercial poultry could play an important part in Ohio agriculture, said the feed man, who described a program for influencing farmers to get into good size cage operations. The goal of the program was said to be 2 million hens in 1961; the total now is more than 1.3 million.

A Production Credit Assn. official said that "there seems to be a lot of interest in the poultry field but it is questionable if the producer's interest is at heart . . . We have experienced the broiler growing program and have seen it come and go. It makes us wonder about the egg program. PCA's present philosophy is to stick pretty largely to the oldtime producers that have proven themselves able to ride through rough times."

The speakers were members of a panel which discussed the subject "What Are the Future Opportunities for Poultry Production in Ohio?" The panelists were Fritz Schuler, Ralston Purina Co., Columbus, Ohio; Claude Hummel, agricultural specialist, Federal Reserve Bank of Cleveland; Burnell Warner, poultryman, Union, Ohio, and Roscoe Studebaker, field representative, PCA, Troy, Ohio.

SCHULER: Ohio agriculture, like that throughout the grain belt, is in a period of transition, said Mr. Schuler. "As we watch the family farm either go completely out of existence or change to a larger operation, commercial poultry could play an important role in Ohio agriculture.

"It has been our sole objective that, through a program of education and guidance—through both our sales and dealer organizations—we could influence farmers to increase their income by going into a minimum of 3,000 cage units. Just a year ago we had around 300,000 hens in cages concentrated in northwestern Ohio and southeastern Ohio. Through an intensified program of demonstrating the profitability of commercial poultry on Ohio farms, this number has now increased to well over 1.3 million. We have a goal, which we are sure we will attain, of 2 million hens in 1961."

With capital one of the real needs in an operation like this, it was important to do a good selling job on both the country banker and PCA, Mr. Schuler pointed out.

"This," he said, "we have been able to do through field days and pilot projects, where we could prove to financial people that there was a good return on their investment. We have had no trouble obtaining this type of loan."

STUDEBAKER: "There seems to be a lot of interest in the poultry field, but it is questionable if the producer's interest is at heart," said Mr. Studebaker. "The past year's experience has brought out several things that have given PCA doubts as to who is really concerned with the producer.

"We are pretty certain that a man venturing into the poultry field as a beginner or in an expanding program should have a pretty good knowledge of the type of program he is going into or be the type of person who will naturally follow the best proven thinking in this field.

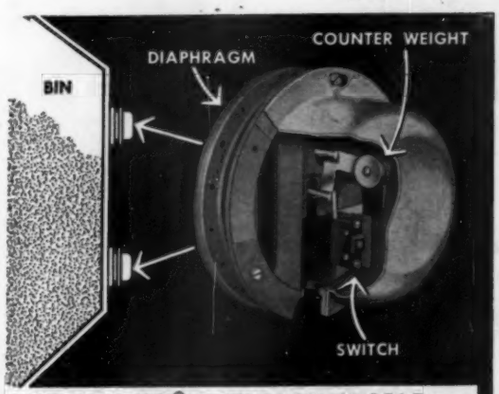
"A lot of dollars are being spent to sell the public on the use of poultry meat and eggs, but many times the selling issue isn't the producer and his product but some other issue.

"Production Credit feels that there should be as good an opportunity in poultry raising as in other fields on the farm. However, we have experienced the broiler growing program and have seen it come and go. It makes us wonder about the egg program.

"PCA's present philosophy is to stick pretty largely to the oldtime producers who have proven themselves able to ride through the rough times. We also make every effort to help any new producers whom we have taken on in the past few years to make progress. We can't see taking much new poultry business until we are able to get some of the present ones on solid ground.

"We see some temporary relief in the near future, but most of the programs are set up on a five-year expected pay-back time. With little progress being made in the last year or two, it presents a good sized problem for the future."

WARNER: Ohio has an abundance of feed, which is one of the advantages of the area in poultry operations, said Mr. Warner. Also, he said, there are good marketing organizations and processing plants already in successful operation. Another favorable factor is closeness to markets; eggs can and do roll overnight into major population centers. With the exception of perhaps the New England poultryman, Ohio poultrymen



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are as well experienced in poultry husbandry as those in any other sections.

HUMMEL: To meet competition from other areas, Ohio producers must meet certain requirements, said Mr. Hummel. A key factor is development of market outlets for a given volume of a specified quality of product. He said outlets like this can frequently be arranged through existing organizations or firms. Also important is establishment of a scale of production of sufficient size to assure a satisfactory return for the investment of time and capital. A third factor is unremitting attention to application of new technology.

Adequate financing is essential, Mr. Hummel said, but it can in no way successfully substitute for management. Management that takes steps to market successfully the output of an efficiently produced product with good consumer acceptance has the best prospect of using credit profitably.

South Dakota Studies Salt as Ronnel Carrier

CHICAGO—According to the Salt Institute, salt's use as a carrier may be further extended as a result of research work done at the South Dakota Experiment Station where a salt-bonemeal mixture was used in three years of tests as the carrier of ronnel in an effort to control cattle-grubs in calves.

Technical ronnel, the institute says, incorporated in a three-to-one salt-bonemeal mixture was made available on a free-choice basis to cattle-grub infested calves for periods of 28 to 66 days.

Outstanding control (100%) was achieved at concentrations of 48 and 40 grams ronnel per pound of mixture for 66 days, the institute says. Inadequate control, however, was obtained at lower levels (16 grams per pound) and over shorter periods (28 days).

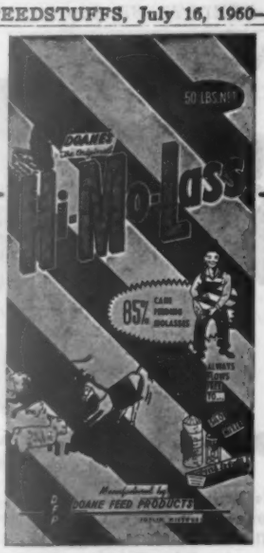
Data developed during the tests show the possibility of good control of cattle grubs by free-choice administration of ronnel in the salt-bonemeal mixture. The success is of a high enough order to warrant further investigation of this technique of administering systemic agents to control grubs, the institute says.

Salt Booklets Available

CHICAGO—A limited supply of the Salt Institute's reference booklet "Salt in Animal Nutrition" is still available, the institute says.

Requests for the 28-page report on salt requirements and methods of feeding salt for the various classes of livestock and poultry are being filled in quantities of 10 or less.

Send request to Salt Institute, 33 No. LaSalle St., Chicago 2, Ill.



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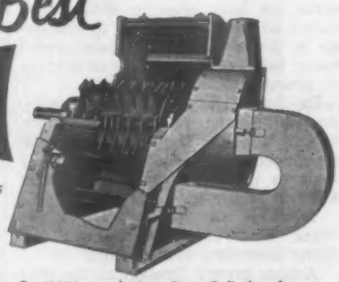

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F-27M Gooseneck	75	24"	$1665.86
F-29M Gooseneck	100-150	36"	$2183.98

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Commissioner's Speech Highlights N. C. Market Dedication

BURGAW, N.C.—Dedication of the new Carlisle Egg Market, a plant designed to meet the needs of the poultry and egg industry in southeastern North Carolina, was highlighted here by a speech by L. Y. Ballentine, state agriculture commissioner.

More than 900 persons gathered at the plant, built on the edge of Burgaw with $65,000 capital raised locally in a cooperative move begun two years ago. The facility has been leased to Carlisle (Pa.) Poultry & Egg Associates.

Citing the Carlisle Egg Market as "a splendid example of community teamwork," Mr. Ballentine said North Carolina's counties should take a look at their agricultural production and see how joint community teamwork can bring about improved marketing or processing facilities.

The egg market here will have a capacity of 5,000 cases per week.

According to Mr. Ballentine, "Our farm and business people have failed to exploit North Carolina's advantages of being in the center of the heavily populated eastern markets." He added, "We have been too complacent about our good geographic location. It can almost be said that North Carolina has become the victim of its own advantages."

The commissioner observed that "Pender County's egg production has increased at least 200% in the past 15 years.

"Yet," Mr. Ballentine asserted, "this county hasn't fallen into the error we have seen in some other states where change-over to emphasis in poultry production has caused many farmers specializing in poultry to practically stop farming."

Dr. John Dees, president of the Industrial Development Corp., which raised funds for the venture, formally opened the market by presenting keys to Vance Weibley, manager of Carlisle Egg.

Tours of the plant were made. Some 1,500 cases weekly are now being processed in the plant.

Among groups involved in the project were the Pender Poultry Assn., Batson's Farmers Exchange, Murphy Brothers Milling Co. and Foard's Hatchery.

Tell of Carbohydrates In Milk Replacer Diets

URBANA, ILL. — Dairy scientists at the 55th annual meeting of the American Dairy Science Assn. recently heard three University of Illinois specialists report on the effects of adding certain carbohydrates to milk replacer diets for dairy calves.

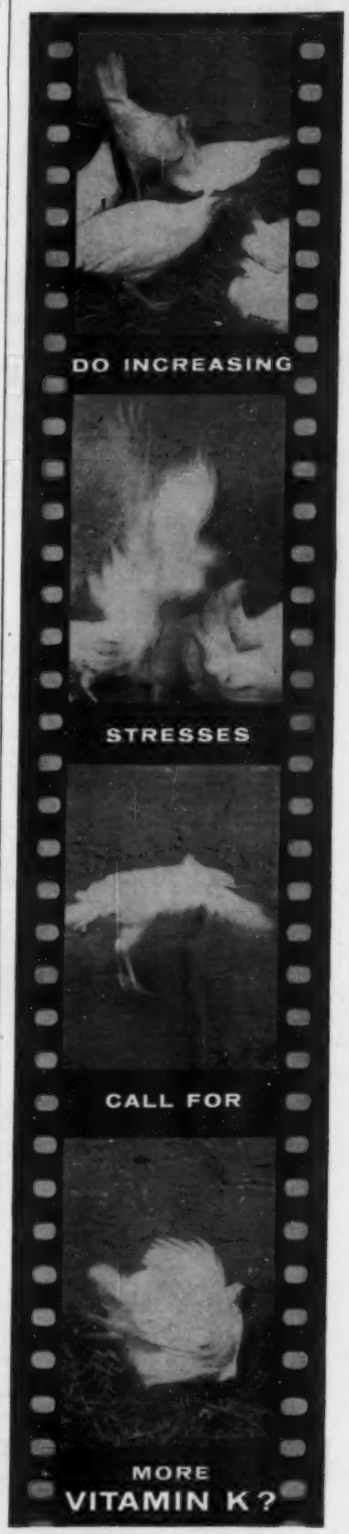
Dr. K. A. Kendall, S. P. Netke and K. E. Gardner reported that when starch replaced approximately one third of the dried skim milk on an equal energy basis in a milk replacer diet, calves made average daily gains of 0.518 lb. over a 42-day period. When no starch was added, the gain was 0.587 lb. daily.

When hydrolyzed blackstrap molasses was added to the ration, calves gained an average of 0.466 lb. daily. Blackstrap molasses without hydrolysis caused calves to scour severely. Scouring also occurred when cerelose was included in the diet, the scientists explained.

These studies point further to the inability of the young dairy calf to utilize certain carbohydrates when included in milk replacer diets, they added.

POULTRYMAN DIES

ST. ALBANS, VT. — Byron P. Greene, 74, poultry serviceman for the Wirthmore Feed Co. for more than 20 years and superintendent of poultry at the Champlain Valley Exposition for 37 years, died at his home recently after a long illness.



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WICHITA

JOE BROOKS

BY AL P. NELSON

Where Should The Farmer Buy?

When Herman Ricker came in for supper that night, he was very thoughtful. He merely grunted a greeting to his wife, Ernestine, at the bottled gas stove, then went into the downstairs washroom and cleaned up.

"What's worrying you?" asked his wife, as she turned the Swiss steak in the frying pan and heard Herman trudging to the kitchen table.

"How did you know I'm worrying?" pudgy Herman asked in surprise.

Plump Ernestine chuckled. "Why, Herman, I'm no fool. I haven't lived with you for 19 years without getting to know you like a book. I can almost read what you think as you think."

Now Herman did look frightened. "No?" he questioned. "Now I sure got to be careful what I think when I come in from the fields."

"Well, what are you worrying about?" Ernestine persisted.

Now it was Herman's turn to chuckle. "Yep, that a woman. They can't stand not knowing. You want to know real bad, don't you?"

"Certainly, I want to know. We're partners, aren't we? What you worryin' about?"

Herman sat down at the table with the red checkered cloth. Then he slowly scratched his head. "Ernestine, I think the time has come for us to change feed dealers."

Ernestine was so surprised that she held a piece of Swiss steak in mid-air and some gravy dripped on the white stove top. "You mean, we're going to quit Joe Brooks?"

"Well, now don't get excited," Herman said quickly. "I know you like Joe. He took you and other farm women on a free bus tour to the city. He sent you a nice red geranium plant on Easter, and he comes out and checks your laying flock regularly and all that. But I've been contacted by a fellow who'll sell me feed cheaper than Joe will. And this fellow will put in a 4-ton steel feed storage tank free of charge."

"How can he do that without going in the hole?" Ernestine asked practically. "Those big tanks cost money."

"Sure, they do. But it's free so long as I continue to buy feed from him. I was talking to Joe the other day about a storage tank. He says I don't have to pay anything down, but he'll sell me bulk feed at the bag price and take the difference off on the payments for the tank"

Ernestine Is Suspicious

"Well," said Ernestine suspiciously, "I don't think a man can stay in business and do things for nothing. We can't afford to give our farm stuff away either. Where's this new feed man with the big heart? Where's he located?"

"Over at Cross Meadows," Herman stated. "That's about 26 miles east. He's got a grain bank and operates on a big scale. He can cut costs."

"Doesn't Joe Brooks have a grain bank and pellets?" Ernestine asked.

"Sure," said Herman, "but look what I can save on that tank. Course only thing is I've got to pay cash for every load of feed when it arrives. That's 'cause the new dealer is good enough to give me the storage tank free of charge."

"Pay on delivery!" said Ernestine, vigorously scraping the gravy from the pan on a platter and putting the dish on the table. "What's the matter with our credit? Isn't it any good?"

"Of course it's good. But this fellow needs his cash, since he's giving away free tanks," Herman said.

"Well, that's his hard luck," said his wife. "I don't think that fellow has much money, Herman, when he has to get his money so quick. No other feed dealer asks for cash right away."

"No, not unless you want to pay cash and get a 1-2% discount."

"Does this new dealer give a discount for cash?" Ernestine asked.

Herman admitted the fellow did not.

"Well, for goodness sake," Ernestine said. "It sounds fishy."

"And I'll bet he won't come and service my flock or check your hogs and dairy herd!"

Herman shook his head. "Not right now. He's just getting started. He wants to do a lot of things later on, but first he has to get started. That new mill cost him a lot."

Her tanned face took on a frown. "Herman, I am surprised at you. Who was it got me started using quality chicks and raising quality eggs? Joe Brooks. And look how my egg production has gone up. When I said I couldn't afford a cooler in

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summer, he found a second hand air conditioner I could use in the basement in summer, and it did the trick. That's service, isn't it?"

"And would you have been raising pure bred hogs today if Joe hadn't kept after you and scouted around for pure bred feeders you could buy at a reasonable price? Who helped you work out a disease prevention program?"

Herman Concedes

"Well," conceded Herman, "J-Joe, did. But every dealer has to do things like that for his customers."

"Oh, no, they don't, Herman. I go to Ladies' Aid. You should hear what a lot of the farmers' wives say about some feed dealers. We're lucky to have a fellow like Joe Brooks as our dealer. He has helped us to make more money from farming—not just selling us feed."

"Yeah, but the price of the tank—"

His wife frowned. "What's a tank? It's the feed and service that counts. I remember two years ago Joe came out and took all your soil samples for you. He made up a soil map of our farm. Now we fertilize according to test recommendations, and we save money and get more crops. We just don't throw fertilizer on the land like we used to—not knowing what different spots needed."

"Darn it, Ernestine," burst forth Herman, eating the last of his piece of steak. "Why do you always have to be so picky?"

"I'm not picky. I'm just particular, and you aren't. All you can see is just how to save a dollar. And in the end it isn't any money saved at all. Let's stick with Joe Brooks."

"I'm not going to give in so easily," Herman said. "Let's make a list of what Joe has done to help us. I'll ask that new feed salesman when he comes tomorrow if he can offer service like that. If he agrees, then we'll decide who gets our feed business."

"He won't agree to give you that much service," Ernestine said. "All he'll give you is the free storage tank. And it won't be free in the long run, because you'll miss so many other savings and services that it will prove to be the most expensive tank you ever got."

"I don't feel so good," Herman said suddenly. "I think I'll skip the pie. Instead I'll take a shot of dandelion wine. Maybe that'll settle my stomach."

Paul H. Millar Retires

LITTLE ROCK, ARK. — Paul H. Millar, chief inspector and disbursing officer of the Arkansas State Plant Board, which has had charge of the statewide inspection of feeds and fertilizer since 1949, has retired.

After serving as chief inspector of this state agency during the last 35 years, Mr. Millar filed his resignation as of June 30. Meeting in Little Rock, June 24, the State Plant Board unanimously approved the resignation and chose Robert W. Anderson, formerly assistant to the inspector, to succeed Mr. Millar.

Moore Dry Dock Co. Picks Sales Engineer

SAN FRANCISCO — Appointment of Bob G. Domenichelli as sales engineer for the industrial division of Moore Dry Dock Co. has been announced by the firm. He replaces Joe C. King who resigned recently.

Mr. Domenichelli studied mechanical engineering and business administration at the University of California. He formerly was employed by Western Gear Corp. and Moffett Engineering Co. as purchasing agent and sales engineer, respectively.

Mr. Domenichelli will handle the Moorspeed line of roller mills and will solicit roll recorrugation work, making calls on the flour and feed mill industries and feedlots in California.

Moore Dry Dock Co. recently designed the dual roll drive as an optional item on their Moorspeed mills.

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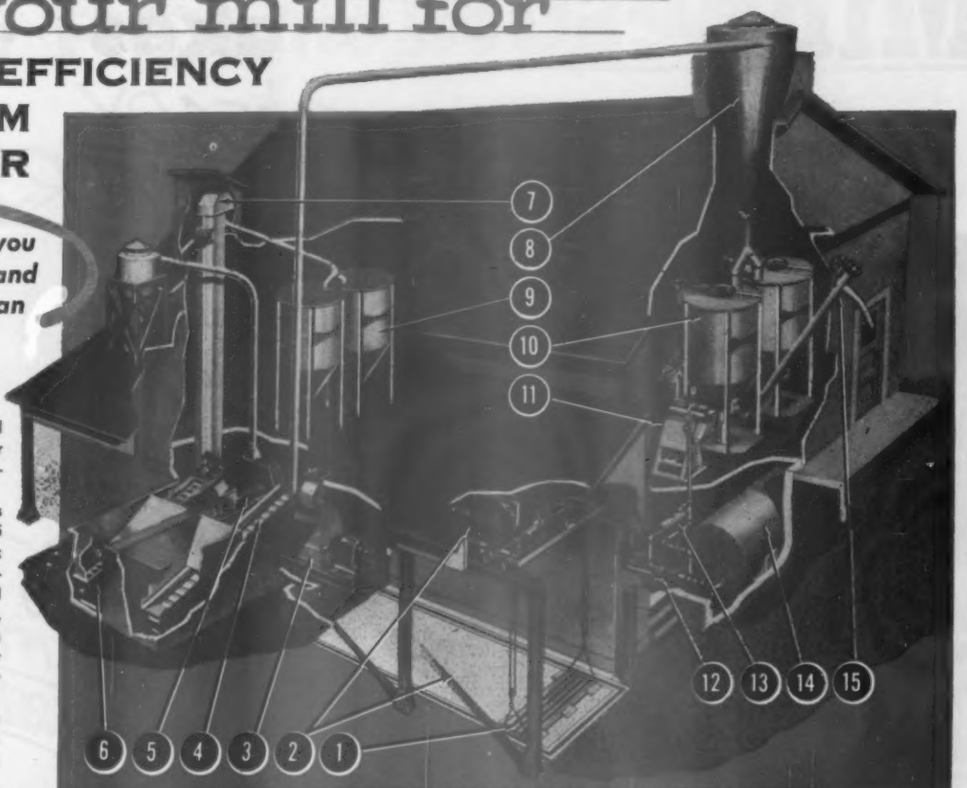

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2. Kelly Duplex Truck Scale with Type Recording Beam
3. Kelly Duplex K-20 Hammermill with direct connected 100 HP motor—and automatic drag control
4. Kelly Duplex 20" Double Chain Drag
5. Kelly Duplex Corn Sheller
6. Kelly Duplex 12" Pit Auger with vari-speed control
7. Kelly Duplex All Steel Bucket Elevator
8. Two Kelly Duplex Dust Collectors
9. Two Kelly Duplex No. 4 Grain Bins
10. Two Kelly Duplex No. 3 Vertical Feed Mixers
11. Kelly Duplex Twin Molasses Mixer
12. Kelly Duplex Molasses Pump
13. Kelly Duplex Molasses Heater
14. Kelly Duplex Molasses Tank
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☐ Bucket Elevator
☐ Corn Crusher-Regulator
☐ Corn Sheller with Blowers
☐ Regular Corn Sheller
☐ Pitless Corn Sheller
☐ Combined Sheller-Cleaner
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Feedstuffs

Opportunities for the Production Man To Up Feed Manufacturing Profits

By Alden Ackels
Bay State Milling Co.

In my experience, total net weight losses in manufacturing formula feeds above 1%, for all reasons, are excessive. The most common sources of actual weight losses are:

(1) Actual weights of materials received were lower than billed weights which may have been used for inventory records.

(2) Ingredient dust losses incurred in handling and processing, such as cut-in hoppers and grinder dust collectors, as well as residue in ingredient bags.

(3) Moisture losses such as in grinding grains, pellet coolers and warehouse exposure to very dry climates.

(4) Inaccurate weights on outbound finished products.

The operative miller responsible for feed manufacturing can make significant contributions to profit by maintaining close control of such actual weight losses. Excessive losses in these areas are usually susceptible to relatively simple correction.

Dollar losses in blending due to substitution of materials can be most costly. Because feeds tend to be sold on a protein basis, and protein costs money, there is usually a tendency toward protein consciousness on the part of operatives and quality control people. Millers will generally tend to deviate on the high side in the use of high protein materials to insure adequate protein in the finished product.

There is no accurate, average data which has come to my attention from which we can draw conclusions; however, it is possible to set up a hypothetical case to demonstrate the profit and loss potentialities of accurate control by the operative miller in this area of his responsibility.

The prices in this example, for materials, were recent prices in California. The assumption is made that we are merchandising a top quality poultry mash in which the expenses for promotion, sale and credit are a significant factor and in which the manufacturing expense is based on the average of a full line feed mill. (See Table 1.)

EDITOR'S NOTE: This is a portion of a talk given by Mr. Ackels on the operative miller's role in improving profits through mill control —raw material conversion—and expense control at the Association of Operative Millers Technical Conference recently in St. Louis. While Mr. Ackels discussed flour milling primarily, feed milling also was included in his talk. Mr. Ackels is with the Bay State Milling Co., Winona, Minn.

Require Quality Control

In addition to the economics of material costs, today's very carefully balanced feeds require the highest degree of quality control to insure satisfactory feeding results and satisfied customers.

In the example quoted, we have used 75¢ cwt. as total expense. A fair average for all of the old plants, interspersed with new plants, manufacturing a complete range of animal and poultry feeds, might be 40%, or 30¢, cwt. for manufacturing.

At this rate, each penny per cwt., or 20¢ ton in expense saved, can increase pretax profit by 4%. A 10% increase in daily production rates, if accomplished without increasing dollar expense, can mean 8¢ cwt. increased profit, or an increase in profit before tax of 33⅓%.

These are very real contributions in profit which are within the control of the miller. He should be fully aware of these opportunities and exert every effort to contribute as much as he can in these areas to the success and profit of the business.

In the 1954 census data, feed milling was shown to average 16.76 connected h.p. per person employed. Many new plants greatly exceed this figure; however, there is evidence of great opportunity in the feed industry for greater mechanization, especially when one recalls that, on the average, we can operate about 200 h.p. for the cost of a man.

TABLE 1

Bulk prices—44% soybean meal	$3.97/cwt.
Fish meal	5.95/cwt.
Millfeed	2.10/cwt.
Barley	2.48/cwt.
High energy poultry mash:	
Selling price	$4.00
Cost of materials $3.00	
Total expense .75	3.75
Profit before income tax	$0.25
Substitute 1% fish for 1% millfeed	$0.0385—15.4% profit loss
Substitute 1% fish for 1% barley	$0.0247— 9.9% profit loss
Substitute 44% S. B. for 1% millfeed	$0.0187— 7.5% profit loss
Substitute 44% S. B. for 1% barley	$0.0149— 5.9% profit loss

'Beef for Tomorrow' Papers Available

WASHINGTON — All papers and discussions presented at the "Beef for Tomorrow" conference held Oct. 19-20, 1959, at Purdue University, are contained in a 133-page publication made available by the National Academy of Sciences.

According to the academy, there were three major objectives of the conference: (1) To describe the beef the consumer wants, (2) to define the term "quality" in beef, and (3) to describe methods of producing beef more economically than at present.

Copies of the publication are $2 each, and can be obtained by writing the Printing and Publishing Office, National Academy of Sciences, National Research Council, 2101 Constitution Ave., Washington 25, D.C.

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NOTE THIS RECENT PURDUE UNIVERSITY TEST SUPPLEMENT FED	SELLING PRICE PER HUNDREDWEIGHT	MARGIN OVER FEED & STEER COST PER STEER
Soybean Oil Meal Alone	$20.50	—$ 9.38
PURDUE SUPPLEMENT A:		
With Soybean Oil Meal	$21.75	+$ 6.44
With Linseed Oil Meal	$22.00	+$12.00
With Cottonseed Oil Meal	$21.50	—$ 0.12
With Soybean Oil Meal and 5% Urea	$22.00	+$11.77
With Linseed Oil Meal and 5% Urea	$22.50	+$23.36

For Meal, Pellets Or Grits—Write, Wire Or Phone Us Your Requirements.

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Butler POLLYPHOS

Feed and mineral manufacturers are vitally interested in increasing efficiency and reducing costs in their manufacturing processes. With increased efficiency they produce better products . . . and at the same time are able to pass on . . . to their customers . . . these products at lower costs.

BUTLER CHEMICAL COMPANY accomplishes both of these factors for their customers. Through increased efficiency they reduce costs in producing the finest quality defluorinated phosphate . . . BUTLER POLLYPHOS.

As a result . . . BUTLER is able to deliver POLLYPHOS containing the highest phosphorus content — 19% — at the lowest cost per unit of phosphorus . . . to formula feed and mineral manufacturers.

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Make your feeds sell better. For chickens . . . Serpasil relieves stress . . . shown by increased egg production and egg quality as compared to controls during heat stress. Based upon field trials in Arizona, egg producers may get as many as 140 eggs more per hundred birds during one summer . . . from quieter, healthier birds. For turkeys . . . Serpasil stops aortic rupture; 1 ppm in the feed for 5 days followed by lower levels for the remainder of the major growth period has been shown to provide *quick control* of this serious economic disease. Prophylactic treatment at lower levels has also been shown desirable in areas where the disease is prevalent. *File your new drug applications. Kits are available from your salesman or write:*

CIBA PHARMACEUTICAL PRODUCTS INC., Feed Additive Sales Division, P.O. Box 313, Summit, New Jersey. *Distributed by:* MERCK & COMPANY, INC., Chemical Division, Rahway, New Jersey *and* THE RAY EWING COMPANY, Pasadena, California • Lancaster, Pa. • Fort Worth, Texas • Ames, Iowa.

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Florida Egg Men Seek Inspection Label Curb

TALLAHASSEE, FLA.—Egg men in Dade County have instituted a suit asking that Lee Thompson, Florida commissioner of agriculture, be stopped from selling inspection labels to out-of-state egg dealers.

If successful, the move would increase costs of out-of-state egg suppliers. If they could not put the inspection stickers on at point of origin, the eggs would have to be unloaded in Florida, and the necessary stickers applied before they could be sold in supermarkets. The suit, filed June 27 in Leon County Circuit Court by George Hart, Frank See and Ken Morris, charged that the state agriculture commissioner has no power to sell the inspection stickers to out-of-state egg men.

Mr. Thompson said Florida egg dealers had requested him, as well as the late commissioner, Nathan Mayo, to stop selling the labels out-of-state, but that their requests had been refused. He said the inspection stickers have been sold out of state since the egg law was enacted in the early 1930s.

He pointed out that egg dealers in other states put the labels on the cartons when the eggs are packed for shipping to Florida. This enables them to be sent directly to a wholesaler or retailer.

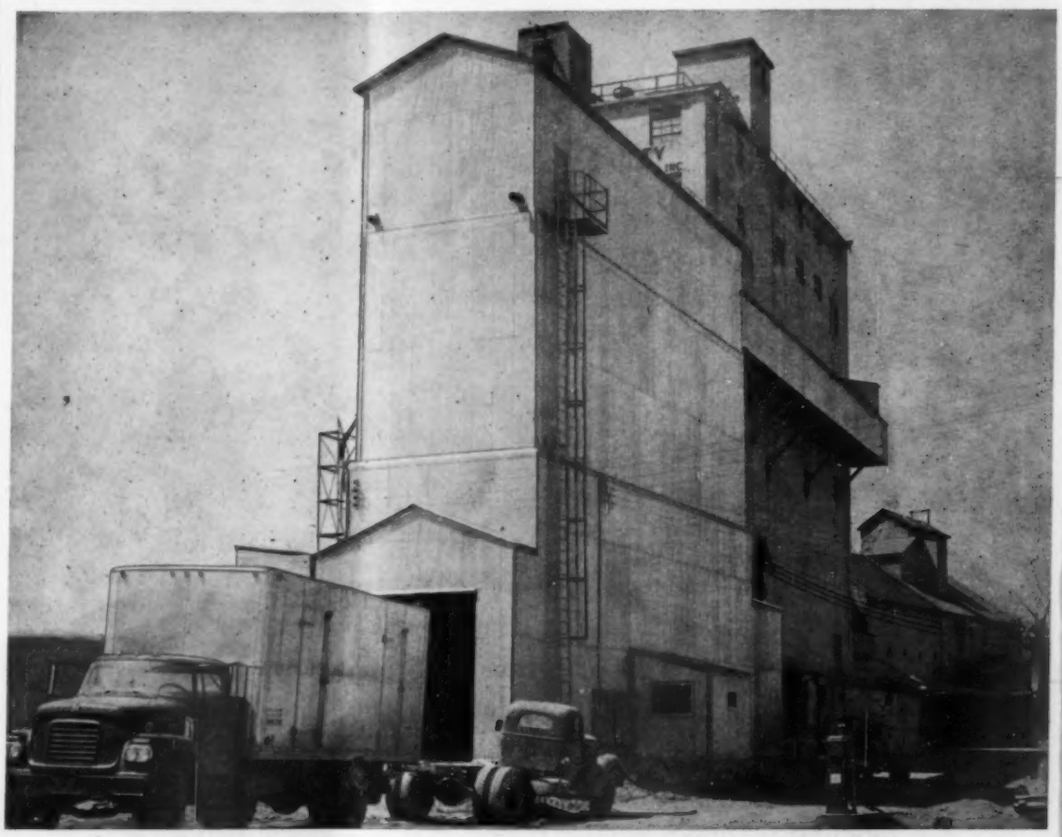
Neither Florida-produced nor out-of-state eggs may be retailed without the stickers. If the out-of-state suppliers cannot put on the labels when shipping the eggs, they would have to attach them, with added expense, when the eggs came into the state of Florida.

Oregon Feed Group Sets Convention Site

PORTLAND, ORE.—The 1961 annual convention, Oregon Feed & Seed Dealers Assn., will be held March 16-17 at the Sheraton-Portland Hotel. This decision was made recently at a meeting of the association board of governors.

Influencing factors in selecting the Sheraton-Portland for site of the 30th annual convention were the fact that by that date the new Lloyd's area shopping center, one of the largest in the nation, will be in full operation, together with the better facilities at the hotel for handling the rapidly growing Friday night convention social party and dance.

General convention chairman for the 1961 meeting is Hal Hardin, Willis Small Feed Co., Eugene, Ore. Program chairman is Rod Wissler, Chase Bag Co., Portland.



At Inter-County Farmers Cooperative Association, Inc., Woodridge, New York

Fully automated Fitzpatrick bulk feed load out system works "like magic"—cuts feed handling costs!

This unique load out facility handles an average of 300 tons of feed daily. Designed, manufactured and erected by Fitzpatrick, the system includes sixteen 20-ton bulk tanks over a 70′ truck scale, completely enclosed in a modern, all steel building, tied in to the main plant.

Two 120′ troughing belts connect to the manufacturing system and convey finished feeds to the bulk tanks. Distribution of feeds to the tanks is automatically controlled through the plant's electronic batching and distribution panel. Automation is completed with remote controlled, air-operated discharge gates.

Joseph Cohen, Inter-County's Assistant General Manager (shown at right with William Caston, Licensed Weigh Master in charge), says, "We are pleased with the efficient, cost-cutting operation of this equipment!" Another Fitzpatrick installation at Inter-County's Port Jervis, N.Y., plant is also giving top performance.

Fully automated feed manufacturing plant, bulk feed or grain storage and handling facilities, or mill components . . . whatever you are considering . . . it will pay you to talk with Fitzpatrick. Sound engineering for maximum efficiency, highest quality materials and standards of construction, plus complete

erection on the job site by trained building crews, insure your investment. Write today.

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FEED MILL ENGINEERING, MANUFACTURE, ERECTION

U. E. FITZPATRICK & COMPANY • BURKET, INDIANA

CALENDAR

(Continued from page 70)

Kansas City; sec., E. M. Funk, Columbia, Missouri.

Nov. 16-18—Florida Nutrition Conference; University of Florida, Gainesville; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept.

Nov. 25-26 — American Society of Animal Production; Hotel Sherman, Chicago, Ill.; sec., Clair E. Terrill, Animal Husbandry Research Division, Agricultural Research Center, Beltsville, Md.

Dec. 1-2—North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. J. W. Kelly, Poultry Science Dept.; co-sponsored by North Carolina Feed Manufacturers Assn., sec., McNair Evans, Box 44, Mocksville.

Dec. 12-13 — Midwest Veterinary Nutrition Conference; Continental Hotel, Kansas City; Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th St. Bldg., Kansas City 5, Mo.

1961

Jan. 4-6—National Turkey Federation; Conrad Hilton Hotel, Chicago, Ill.; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 12-13—Michigan Feed & Grain Dealers Assn.; Michigan State University, Kellogg Center; sec., Nevel Pearson, P.O. Box 472, East Lansing.

Jan. 16-17—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Jan. 23-25—Farmers Grain Dealers Assn.; Civic Memorial Auditorium, Fargo, N.D.; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 27 — Missouri Turkey Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Jan. 31-Feb. 1 — Hoosier Turkey Trot; Purdue Memorial Union, Purdue University, Lafayette, Ind.; John N. Howell, Turkey Department, Indiana State Poultry Assn., Poultry Bldg., Purdue University.

Feb. 2-3—Oregon Animal Nutrition Conference; Withycomb Hall, Oregon State College, Corvallis.

Feb. 7-10—American Dehydrators Assn.; Jung Hotel, New Orleans, La.; executive vice president, Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 8-9—Pacific Northwest Feed Mill Production School; Hotel Leopold, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10 — Washington State Feed Assn., annual convention; Hotel Leopold, Bellingham, Wash.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; pres., Harold M. Williams, 59 E. Madison, Chicago 2.

Feb. 19-21—Midwest Feed Manufacturers Assn.; Hotel Muehlebach, Kansas City, Mo.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 19-21 — Ohio Grain & Feed Dealers Assn.; Neil House, Columbus; sec., George G. Greenleaf, 5625 N. High St., P.O. Box 121, Worthington.

March 16-17—Oregon Feed & Seed Dealers Assn.; Sheraton-Portland Hotel, Portland; mgr., Russ Hays, 702 Lewis Bldg., Portland 4.

March 20-24—Grain & Feed Dealers National Assn.; Washington, D.C.; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

April 10-12—Poultry and Egg National Board; Sheraton Towers Hotel, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

April 27-29—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson.

April 23-28—Grain Elevator & Processing Superintendents; Baker Hotel, Hutchinson, Kansas; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

May 7-10—American Feed Manufacturers Assn. Convention and National Feed Show; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4.

Oct. 22-24—Midwest Nutrition Conference; Hotel Muehlebach, Kansas City, Mo.; sponsored by Midwest Feed Manufacturers Assn.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

1962

Aug. 13-18—12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

Co-op Announces New Bulk Bin Program

HARRISBURG, PA. — The new bulk bin program, devised by the Pennsylvania Farm Bureau Cooperative Assn., has been pronounced "a positive step toward boosting feed sales in 1960" by Duncan F. Woodward, the Farm Bureau's feed sales and service division manager.

"Now, we have a program to fit almost any patron's needs," Mr. Woodward says. "Former areas of complication have been eliminated as much as possible."

The new program offers the feed patron his choice of three bins. His eligibility to qualify for a certain bin is determined by the volume of feed he orders.

The three bins are graduated according to capacity with the smallest going to the patron who qualifies under the least amount of feed ordered.

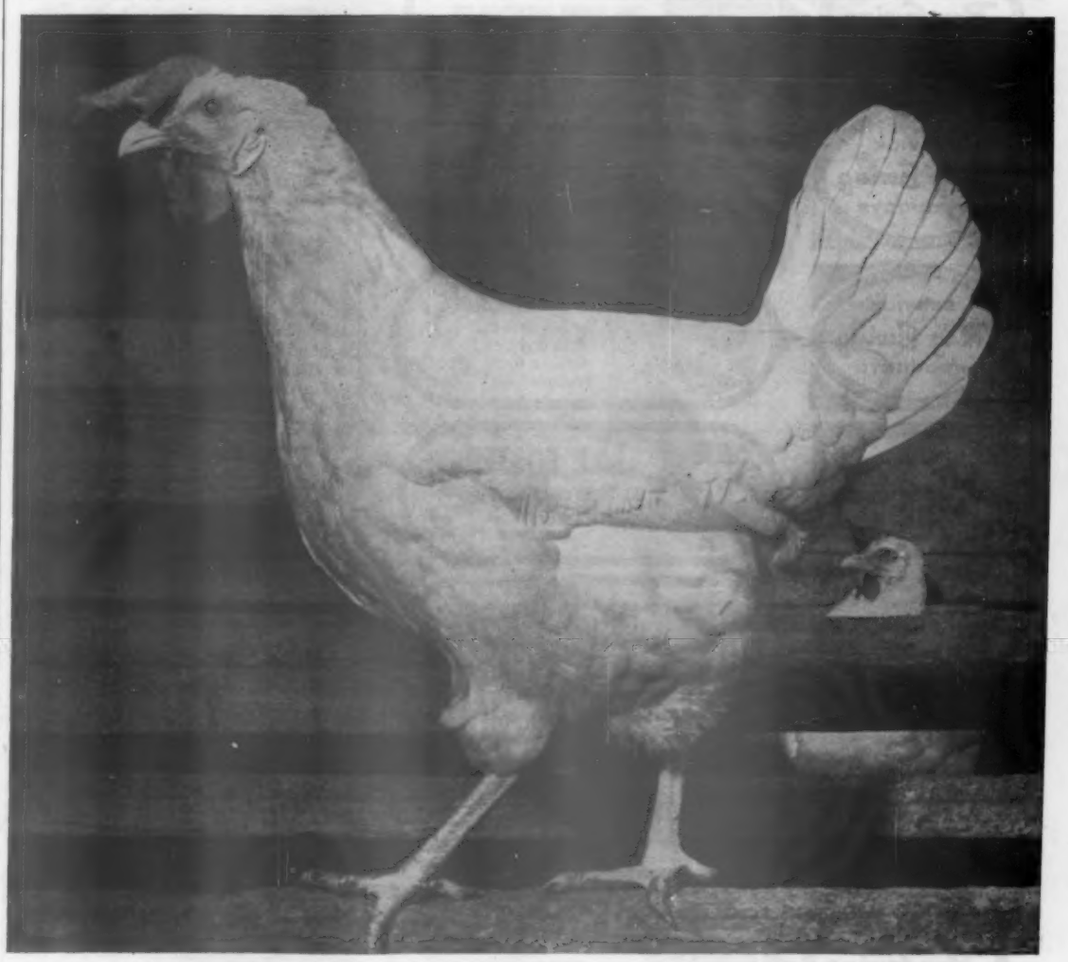
Bins, ranging from smallest to largest, are: The Herr hopper, Herr package bin and Smoker bin.

The Smoker bin requirements remain the same, with a minimum lease requirement of 48 tons. Additional equipment and parts must be approved by the feed representative.

Patrons using the lease program for 15 tons of feed will get the Herr hopper, a 4 ft. by 4 ft., 40 cu. ft. capacity hopper.

The Herr package bin, with 176 cu. ft. capacity, is available for 25-ton feed customers. Included are the hopper and accessories needed for erection. Either the patron or association will do the installation.

Mr. Woodward has announced the withdrawal of retail prices for bulk feed bins and parts. Now only wholesale prices will be published. All bins used in the leasing program will be priced, according to Mr. Woodward, "on the securities agreements at wholesale cost. This is being done to meet competition as most bulk bins are being sold to farmers at cost."



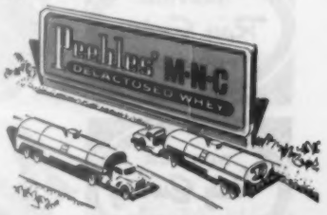
Peebles' M-N-C supercharges feeds with the *WHEY FACTOR BONUS*

Give your feeds that added *plus* with Peebles' M-N-C, the partially delactosed *whey product* that tones up laying flocks for increased egg production.

M-N-C is concentrated to provide 50% more non-lactose milk nutrients that round out the perfect poultry ration. It fills in where deficiencies may exist, and supplies a bonus amount of WHEY FACTOR...the unidentified fraction of whey required for efficient growth. Just 2% M-N-C provides the same amount of Whey Factor as 3% dried whole whey.

With M-N-C, you have an ideal balance of amino acids that make protein function with maximum effectiveness. Tests prove that layers feather better, grow stronger, reach peak production faster—and *stay there longer*, when on a ration that includes M-N-C. Its smooth, even texture assures uniform high quality, color and distribution in mixed feeds.

Put more *sell* in your feeds with M-N-C's Whey Factor Bonus. Write—or wire—for complete information today.



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World-Wide Producer of Quality Milk Products
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Notes Rise in Cattle Feeding in Plains

MANHATTAN, KANSAS — "The number of commercial cattle feed yards is increasing so fast in the Great Plains no state can be sure of the exact total," according to C. R. Jaccard, veteran land-use economist at Kansas State University.

He has been requested by the Great Plains Council to present his suggestions for a new approach to problems of the area at a Great Plains conference July 28-30 at the University of Wyoming, Laramie.

He noted that of the 1,019 commercial cattle feed yards in the Great Plains states, 28 are in Kansas, 420 in Nebraska, 267 in Oklahoma, 75 in Colorado and 94 in Texas. New Mexico with 75 and Colorado with 25 have 100 of the 112 commercial sheep feed yards. The nine commercial hog feed yards are in Montana, Wyoming and South Dakota, he noted.

"We did not try to get the number of individual farm feedlots, but Kansas State University extension engineers furnished 112 such plans in the last year," Mr. Jaccard said.

He quoted from Feedlot, a national magazine for cattle and lamb feeders, saying, "The cattle feeding industry in the Great Plains is making great strides forward from Lubbock, Texas, to Alliance, Neb., both at the commercial feedlot and farm feeding levels."

He stressed that the changes in agriculture in the 10 Great Plains states have been so great over the past decade "the agricultural extension services of the land-grant colleges and universities need to re-evaluate their programs to fit modern conditions."

He pointed out that there are 397 counties in the area designated as the Great Plains. No complete state is included, but there are counties in Colorado, Wyoming, Montana, Nebraska, Kansas, Oklahoma, New Mexico, Texas and North and South Dakota in the region, he said.

"The Great Plains," Mr. Jaccard points out, "has 69% of the cropland and 30⅓% of the irrigated cropland in the U.S. Along with this are over half of the beef cows and production of close to half the U.S. lamb crop and 93% of the grain sorghum. The predominate beef system is calf production with cowherds.

"In addition, they produce practically all the hard red winter and spring wheat and all the durum wheat," he noted.

Beetle Fumigation

SACRAMENTO, CAL.—The last of 341 known Khapra beetle infestations has been fumigated by the Bureau of Entomology, California Department of Agriculture.

The bureau said that favorable program developments indicate that the goal of complete eradication eventually may be attained. More than 900 properties recently were inspected without discovery of a new infestation.

Since inauguration of the project in 1954, more than 130,000 warehouses, mills, feedlots and farms have been examined for Khapra beetle.

Study Leptospirosis

NEW YORK — Washington State University currently is conducting studies to determine economical oral levels of Aureomycin for controlling leptospirosis in cattle, covered by a grant from American Cyanamid.

The findings of Dr. S. G. Kenzy and Dr. L. M. Ringen in 1958 and 1959 indicated that 0.5 mg. of Aureomycin chlortetracycline per pound of body weight administered daily for approximately two weeks will aid in elimination of leptospirosis in beef cattle. This year, they will conduct additional studies in the laboratory and field to further confirm their findings.

Announce New Way To Report Analyses

SACRAMENTO, CAL. — H. E. Spires, chief of the bureau of field crops, California department of agriculture, has announced a new method of reporting analyses results based upon deviations which can be expected in the sampling and analytical procedures under the Commercial Feedingstuffs Law.

If the numerical guarantees are met, the analysis report will show the laboratory result. Where there is a deficiency within this deviation, the report will show "sustained." If the laboratory results are not within the sustained range, then the actual results will be shown, followed by the word "violation."

Through the elimination of reporting of minor variations, the bureau will be able to place greater emphasis upon the necessity of correcting violations and repeated reports showing "sustained."

MASTER-BILT Eggmaster Plug-In Coolers

Convert any small insulated room into a practical walk-in egg holding room, with automatically controlled temperature and humidity. Units available in 5 models: ¼, ½, ¾, 1 and 2 h.p. Easy to install and maintain. Complete refrigerated cabinets also available.

SEND THIS COUPON NOW FOR INFORMATION

MASTER-BILT REFRIGERATION MFG. CO.
4287 Folsom St. Louis 10, Mo.

Please send information and prices on Eggmaster plug-in units.

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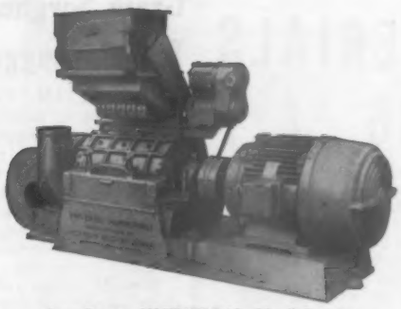
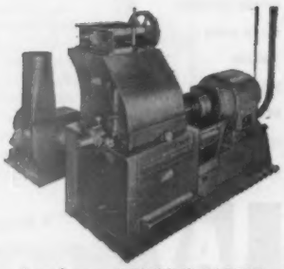


Jacobson UNIVERSAL Model "C"
Hammermill with Rotary Feeder
6 sizes; 40 to 200 H.P.

Jacobson MASTER
Remote Screen Change Hammermill for custom grinding
3 sizes; 60 to 140 H.P.



Jacobson AJACS-O-MATIC
Remote Screen Change Hammermill
4 Sizes; 50 to 160 H.P.

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Our
50th Year
JACOBSON
MACH. WORKS INC.
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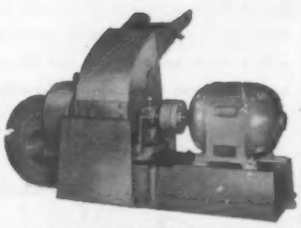
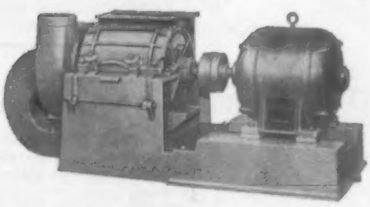


Jacobson AJACS Hammermill
for custom grinding and special applications—Quick Screen Change
5 sizes; 20 to 150 H.P.

Jacobson AJACS Model "IT"
Hammermill
4 sizes; 20 to 100 H.P.



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3 sizes; 10 to 50 H.P.

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BOTH GRAIN FERMENTATION PRODUCTS

For customer satisfaction and increased profit, try mixing either of these economy fortifiers. Rich in proteins, vegetable fats and highly nutritious, Nadrisol and Produlac also contain Vitamin B-G complex plus unidentified growth factors so necessary for healthy birds, a greater meat and egg yield. Mixing either in your formula feeds is an excellent way to promote good pigmentation, better feed conversion and a growth rate fast enough to please your customers and bring them back for more.

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Care in Determining Grain Sorghums Protein Suggested

MANHATTAN, KANSAS — Persons feeding or mixing rations where grain sorghums supply an important part of the protein need to exercise care in determining the protein content of the grain. This is the advice of Dr. George M. Ward, who is working with feeding experiments in the Kansas State University department of dairy husbandry.

While a recent reference work on feeds gives the "average" protein content of grain sorghums as 10.9%, Dr. Ward found that protein content in 1958 grain from six different county demonstration plots actually varied from 8.2% to 12.4%.

Dr. Ward suggests the stockman or dairyman allow a "safety factor" in the amount of total protein in the ration to compensate for any possible protein deficiency where the ration contains a large proportion of grain sorghums.

Where only small quantities of feed are being used, a farmer need only add a little more protein supplement in the ration as a factor of safety. But in rations involving large quantities of grain sorghums, such as in rations prepared by feed mills, Dr. Ward urges that analyses be made on different lots of the sorghums. This is especially important, he says, in rations designed to guarantee a minimum amount of protein.

Hybrid sorghums tend to have larger seed than regular sorghums, and the protein content tends to be lower. Dr. Ward does not think it possible to judge protein content by the appearance of the grain.

Quality Control Head Named by O. A. Cooper

HUMBOLDT, NEB.—Appointment of Burdell R. Nolte as director of quality control for the O. A. Cooper Co. of Humboldt, Neb., was announced by officials of the firm.

B. R. Nolte

Mr. Nolte has been with Ralston Purina Co. the last three years serving as a member of that firm's Kansas City and St. Louis production supervisory groups. He has a degree in feed technology from Kansas State University, Manhattan.

Tests Note Importance Of Salt to Broilers

BLACKSBURG, VA.—Dr. H. S. Siegel, poultry scientist at Virginia Polytechnic Institute, says tests at the college indicate a diet containing 0.2 to 0.8% salt results in best growth in broilers. Birds fed a basal diet low in salt (less than 0.05%), with no added salt, became progressively more sensitive to the lack of salt as they grew older. When they reached 6 weeks of age they were one-half normal weight.

Salt levels above 0.8% also reduced growth. Autopsy showed a relationship between the weight of the adrenal gland, a gland essential for mineral metabolism, and the salt level. The adrenals of birds receiving no additional salt grew to an abnormal size.

When birds were kept on low-salt rations, cannibalism increased. Dr. Siegel says if cannibalism becomes a problem in broiler flocks, 0.5% salt added to the diet for one week may be helpful. Discontinue the additional salt before it has time to reduce weight gains. The birds eating added salt drink more water, too, so wet litter may become troublesome.

Radson Engineering Picks Sales Manager

MACON, ILL.—Appointment of A. O. Wiegers as sales manager of the agricultural division has been announced by Radson Engineering Corp.

Mr. Wiegers will be in charge of sales activities with Radson's agricultural distributors and dealers of the new Radson agricultural two-way radio telephone and Radson electronic moisture and temperature testing equipment. In addition to sales, he will be responsible for distributor training activities and the administration of a program establishing a nationwide network of Radson authorized service stations.

Mr. Wiegers has been associated with farm equipment business in the sales organizations of Dempster Mill Mfg. Co. and J. I. Case Co., and he has most recently been employed by Modern Tractor & Supply Co., Oklahoma City, as its western division sales manager. He is a graduate of the University of Missouri.

ADVANTAGES in ROLLED GRAIN

for You

Rolled Grain costs less to produce because roller mills cost less to operate, less to maintain and the investment is smaller.

Rolled Grain is clean, dust free and easy to handle. There is no weight loss due to fines that are blown away.

Rolled Grain is easy to sell—your customers like it and recognize its value. Only with a roller mill can you get the exact coarseness you want with uniformity.

and Your Customer

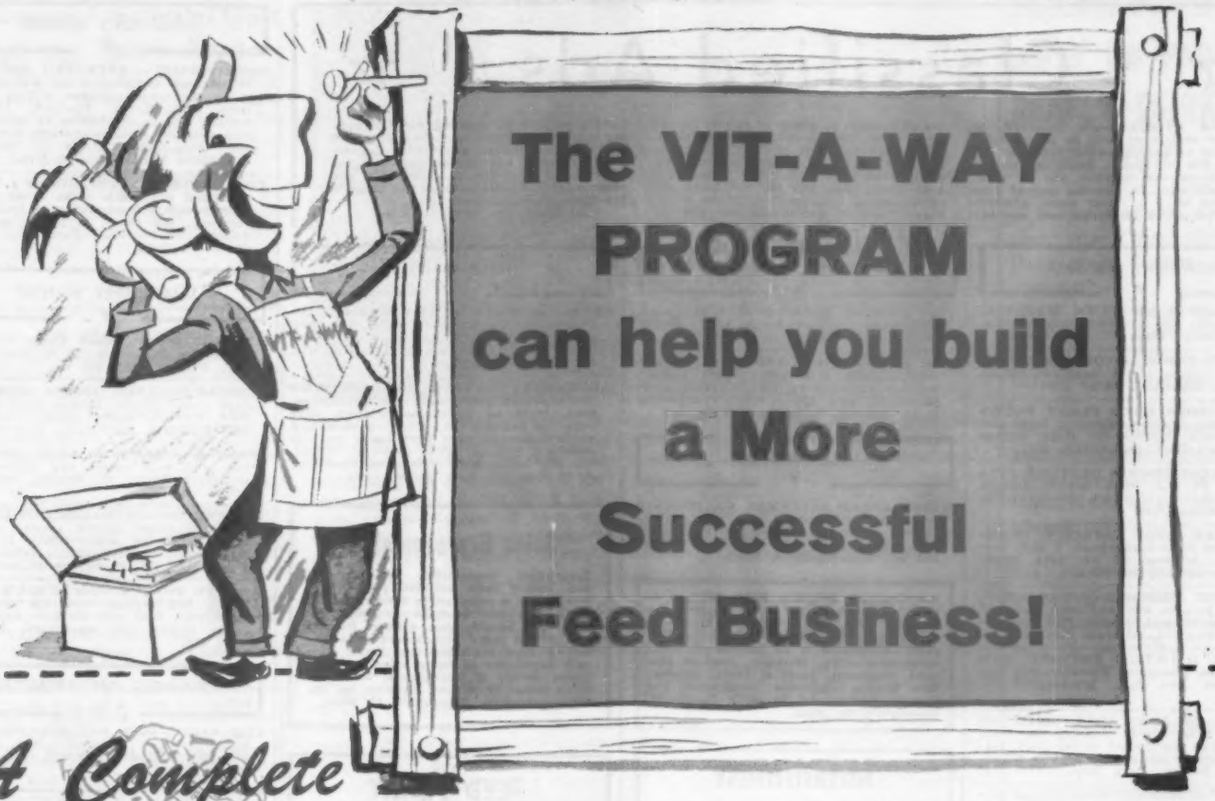
Rolled Grain for livestock and poultry is a palatable, easy-to-digest feed. There are no fines or flour to cause digestive and respiratory disorders. Livestock and poultry gain faster or produce more when fed rolled grain than they will on ground or whole grain. Uniformity assures better digestibility.

ADDITIONAL ADVANTAGES are yours with ROSKAMP GRAIN ROLLER MILLS, with their sturdy construction, quick change roll adjustment, finger-tip hopper feed control and solid white iron rolls that are guaranteed for 10 years.

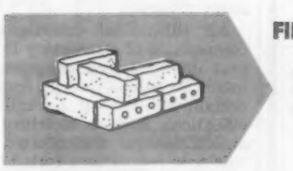
Clip this coupon to your letterhead and send to Roskamp for FREE literature on how to save in processing grain. (360)

ROSKAMP HULLER MFG. CO.

634 Grand Boulevard, Cedar Falls, Iowa



A Complete Program to BUILD Better FEEDS... AND BIGGER SALES VOLUME!



FIRST

We'll lay the foundation with VIT-A-WAY Mineral-Vitamin FORTIFIER as the base fortification for your feeds. This is a solid foundation upon which a steady growing—successful feed sales program can be built.

SECOND

We'll hammer out feed formulas for you that are confidential. Your formulas will be made using locally and easily available ingredients . . . and, they will be uniform and result-producing at the lowest possible cost to manufacture. Your formulas will be prepared by some of the nations best nutritionists, who are on the VIT-A-WAY Staff.

THIRD

We'll saw off many problems, through Nutrition Counsel—Our Department of Research and Control is always ready to answer questions and furnish data on "tomorrow's problems today" . . . to help you meet and solve feed problems in your trade area. This puts you in a better position to serve your customers with new developments in scientific and efficient feeding practices.

FOURTH

We'll help you drill a hole through competition by assisting you in advertising and promoting your own brand feeds. Our Advertising Department will help you "create" new business with sales literature, feeding direction folders, ad mats, point-of-sale pieces, direct mail and other selling tools.

FIFTH

We'll help smooth off customer objections by sending free mailings to them . . . for you. These mailings will go right into the home of the customer and prospect . . . with YOUR NAME imprinted on them. This invites them to visit and trade with you . . . and further explain the value of VIT-A-WAY in your feeds.

SIXTH

The VIT-A-WAY Program will paint a prettier profit-picture for your sales effort. We will assist you in holding feeder meetings and help train your salesmen so they will all know the value of selling and using your VIT-A-WAY Fortified feeds. It all adds up to a service that will help you have more successful feed business.

VIT-A-WAY, INC.
P. O. BOX 4311
FORT WORTH 6, TEXAS

WE'RE INTERESTED in the VIT-A-WAY Program

☐ Please send me more information
☐ Have your Representative call

My Name.....

Company.....

Address.....

Get the Facts Now!

VIT-A-WAY MINERAL-VITAMIN FORTIFIER IS MANUFACTURED BY AN EXCLUSIVE PROCESS. U. S. PATENT NO. 2,611,702

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 20¢ per word; minimum charge $3.00. Situations wanted, 15¢ a word; $2.25 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 25¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $13.00 per column inch. No discount on ads ordered for more than one insertion.

All Want Ads cash with order.

MACHINERY FOR SALE

ONE FISCHBEIN SEWING MACHINE, one year old, $75. Napoleon Alfalfa Mills, Inc., Napoleon, Ohio.

24" JB WITH 10 H.P. MOTOR, 3,600 R.P.M., 440 volt, 3 phase, $1,200. Napoleon Alfalfa Mills, Inc., Napoleon, Ohio.

MISCELLANEOUS FEED PLANT EQUIPMENT—Rotex screens, elevator legs, circuit breakers, starters, etc. Regal Packer By-Products Co., Lynn Center, Ill.

ONE USED CALIFORNIA CENTURY PELLET mill. 50 H.P. with cooler, motors, starters, shaker. Napoleon Alfalfa Mills, Inc., Napoleon, Ohio.

FEED MIXER, 1-TON CAPACITY, guaranteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

CHAMPION MOBILE GRINDER AND mixer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

FOR SALE—20' IOWA MILL, MOUNTED on 1957 2-ton truck powered by GMC diesel, 2-ton horizontal mixer and molasses blending equipment. Mooers Manufacturing Co., Windom, Minn.

ONE 36-IN. ATTRITION MILL; 5-TON EUreka horizontal mixer with silent chain drive and 40 H.P. motor. J. E. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

FOR SALE—ENCLOSED MOTORS; RICHardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FOR SALE — 15 H.P. SPEEDYLECTRIC steam boiler, manufactured by Livingstone Engineering Co., Worcester, Mass. Unit in top condition, installed larger pellet mill, replaced with larger unit. Address Ad No. 6065, Feedstuffs, Minneapolis 40, Minn.

COMPLETE WENGER HI-MOLASSES PELlet unit, practically new. Includes 1,000 series soft pellet mill, 4'x16' two stage horizontal cooler, shaker, pellet duster, Syntron feeder with or without motors. Contact: Pillsbury Co., Minneapolis, Minn.; FEderal 3-4151, Extension 335.

RICHARDSON SCALES, UNION SPECIAL sewing machines, magnesium dock boards, belt conveyors, Drayer feeders, corn cutters, hammer mills, grain cleaners, molasses mixers, hummers, Toledo dial scales, sprockets, sheaves and gears. Located at former Maritime Milling Plant, 278 Hopkins Street, Buffalo, N. Y.; Telephone TRiangle 2-311.

FOR SALE — ONE SPROUT-WALDRON, unused, 335 cu. ft. ribbon mixer. Unused No. 9 Sturtevant rotary blender, 150 cu. ft. T304 stainless steel dry material handling system including: 1,800 cu. ft. weigh hoppers, Ajax "Lo-Veyor" shaker conveyors, bucket elevators, screw conveyors, all stainless steel. Send for details. Perry, 1403 N. 6th St., Philadelphia 23, Pa.

FOR SALE

Feed and Grain Handling and Processing Equipment

NEW & USED

Scales, Hammermills, Feed Mixers, Sewing Machines, Elevators, Pellet Mills, and Grain Cleaners

E. H. BEER & CO., INC.
Ibsen Ave. & Newkirk St.
Baltimore 24, Md.

FOR SALE

(1) 1958 IHC Tandem ACF 182 Hopper bulk truck, 3 compartments, pneumatic unloading, 30-inch belt down the center, 12-ton capacity, excellent condition.

(2) 1959 Chevrolet 10-E Tandem 18-foot combination, bulk and bag body, 12-ton capacity, pneumatic unloading, 30-inch belt down the center, two compartments, excellent condition.

(3) 1957 Highway equipment, 35-foot combination bag and bulk trailer, 4 compartments, 18-20 ton capacity, with brand new 36 H.P. Wisconsin engine, excellent condition.

Call or write

CENTRAL SOYA COMPANY, INC.
300 Fort Wayne Bank Building
Fort Wayne, Indiana
Or Phone Anthony 2441, Extension 358

MACHINERY FOR SALE

FOR SALE—O. B. WISE HAMMERMILL with 50 H.P. electric motor. Clyde Scales, Osawatomie, Kansas.

FOR SALE—20 H.P. AND 30 H.P. GENeral Electric drip proof, 1,800 R.P.M., 220/440 volt motors with starting compensators, new 1952. Warren Albrecht, P. O. Box 443, LaGrange, Texas.

HELP WANTED

EXPERIENCED SALESMAN, CALIFORNIA territory. Commissions 1959 on territory $11,000. Give details of experience, references, etc. Write Sales Manager, 521 So. 3rd St., Minneapolis 5, Minn.

NATIONALLY KNOWN FEED MILL MAchinery manufacturer has opening for salesmen with proven sales in feed mill machinery. Only those with minimum five years' experience to be considered. Territories open—Ohio, Michigan, southern Missouri, Oklahoma, parts of Texas, Arizona, New Mexico, California, Washington and Oregon. Address Ad No. 6073, Feedstuffs, Minneapolis 40, Minn.

NUTRITIONIST

Good number 2 man under Products Director for feed formulation and quality-control responsibilities. Graduate degree in nutrition required—Ph.D. desirable.

Write—

DIXIE MILLS COMPANY
P.O. Box 351 East St. Louis, Ill.

REPRESENTATIVES WANTED

(You can make in excess of $10,000 and still carry your present line.)

Medium sized, fast growing agricultural insecticide company needs agents in the following areas:

Arkansas	New England	Pennsylvania
Kansas	Maryland	Texas
Louisiana	Missouri	Virginia
North Carolina	Oklahoma	

Our present representatives are happy with us. We are aggressive and expanding. If you can sell wholesalers and retailers, plan and carry out a constructive sales program without too much prodding from us—you're the man we want.

Drop us a note and tell us about yourself, or contact us at Booth M-113, Memphis Poultry Show, on July 19-21.

P. O. Box 2006 Savannah, Georgia

HELP WANTED

FEED SALESMAN WITH AMBITION, initiative and successful background in feed sales. Good salary plus bonus arrangement. Address Ad No. 6111, Feedstuffs, Minneapolis 40, Minn.

AGGRESSIVE SALES MANAGER WHO can organize, select and train feed salesmen. Must be promotion minded. Give complete details as to experience and qualification in your first letter on this excellent opening. Write Floyd D. Huling, c/o Dr. McDonald's Vitamized Feed Co., P. O. Box 787, Fort Dodge, Iowa.

Sales Representative

Progressive organization manufacturing and selling feed additive products is looking for a salesman to handle expanded Florida and Southern Georgia sales activities. Should have college training and several years' proven experience selling to feed manufacturers. Prefer man with knowledge of dairy industry. Write giving details of background. Our sales force knows of this ad. Address Ad No. 6108, Feedstuffs, Minneapolis 40, Minn.

FEED PLANT SUPERINTENDENT

The Pillsbury Company program on decentralization has created an opening for an experienced Feed Plant Superintendent.

Responsibilities include daily production operation, supervision of maintenance and quality of product, direction of trucking operations. Midwest location.

Applicants should have three years feed production experience, with good knowledge of machinery and labor management. Engineering degree desirable. Contact:

Calbert Butler
THE PILLSBURY COMPANY
Minneapolis 2, Minnesota

MISCELLANEOUS

FREE CATALOG!

Burrows offers you the best buys! Moisture Testers—new and used, bag conveyors, elevator legs, screw conveyors, augers, truck hoists, vacuum cleaners, sewing machines, bulk bins, testing equipment. Over 1,000 items! Send today for 200-page catalog. Burrows Equipment Co., 1316-C Sherman Ave., Evanston, Ill.

General Manager required to manage all aspects of a new, fully integrated Vegetable Oil Plant in Lethbridge, Alberta, Canada. Equipped by Sharples and Girdler Corporations. All replies treated confidentially. Salary commensurate with ability. Company benefits.

Write for further details and include resume to:

WESTERN CANADIAN SEED PROCESSORS, LTD.

635 Sixth Avenue S. W. Calgary, Alberta

SITUATIONS WANTED

NUTRITIONIST — ADVANCED DEGREE— Industrious, cooperative and well-qualified in development activities, milling operations, formulation, research, technical writing and sales. Desire to relocate in feed industry with progressive firm. Presently employed. Address Ad No. 6112, Feedstuffs, Minneapolis 40, Minn.

PH. D. ANIMAL NUTRITIONIST 4 YEARS' industrial experience seeks broad responsibility with manufacturer of feeds, supplements, pet foods, or pharmaceuticals. Address Ad No. 6107, Feedstuffs, Minneapolis 40, Minn.

MACHINERY WANTED

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 24, Md.

WANTED — USED TRUCK SCALES, 20 tons (over). Write: Kizziar Feed Lot, 911 East Walnut, Altus, Okla.; Phone HU 2-2722 after 6.

WANTED—COMPLETE, GOOD USED MObile mill with mixer and molasses attachment. Harry W. Myrtue, Smithland, Iowa.

WANTED—30" OR LARGER BAUER OR Sprout-Waldron double runner attrition mill, Richmond super sifter or equal, large Williams or Gruendler hammer mill. Bemis Mfg. Co., Sheboygan Falls, Wis.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

BUSINESS OPPORTUNITIES

FOR SALE — OLD ESTABLISHED SEED business — well equipped — rare opportunity. W. D. Wilson and Son, Grundy Center, Iowa.

Belgium Sets Rules on Feed Production, Sale

BRUSSELS, BELGIUM—New regulations for the manufacture and sale of feeds were effected by the Belgian government recently, the U.S. Embassy reports.

All substances entering into the composition of elementary feeds, mineral mixings, feed concentrates and mixed foods will have to comply with certain Ministry of Agriculture specifications, such as moisture content, starch content and protein content. The new regulations forbid the addition of new helminthics, tranquilizers or hormones in the feeds. The use of coccidiostatics and antibiotics in animal feeds requires a special authorization.

For vitamins, the manufacturer, importer or dealer cannot advertise the presence of vitamins, diastases, amino acids or useful ferments in the feed preparations, nor is he allowed to refer to their specific action, unless he has received authorization from the Ministry of Agriculture.

D. Stauffer Promoted At Hercules Powder

WILMINGTON, DEL. — D. F. Stauffer has been appointed manager of the Canadian technical service branch in the Naval Stores Department of Hercules Powder Co.

Mr. Stauffer's newly created position reflects the importance of the rapidly growing industrial markets in Canada, and increasing requirements for technical service, officials said.

He will be in charge of technical service for all Naval Stores Department products sold in Canada, with headquarters in Wilmington. Mr. Stauffer joined Hercules Powder Co. in 1950, and has performed technical service and sales work in both the U.S. and Canada.

AD AGENCY RELOCATES

MINOTOLA, N.J.—Lang Advertising Associates has shifted its headquarters to new and larger offices in Minotola, N.J., it was announced by Fred Lang, president. The agency, which specializes in agricultural advertising and public relations, was located previously in Vineland, N.J.

Eastman Chemical Unit Realigns Sales Areas

KINGSPORT, TENN. — A major realignment of the eastern and midwest regional sales territories has been made by the chemicals division of Eastman Chemical Products, Inc. This company is the marketing subsidiary in the U.S. and Canada for products manufactured by Tennessee and Texas Eastman company divisions of Eastman Kodak Co.

The territory changes were announced by Dr. James E. Magoffin, vice president, and John H. Sanders, sales manager, E.C.P.I. chemicals division. Mr. Sanders, former regional sales manager in Cleveland, succeeded Guy A. Kirton, who will concentrate on international sales of Tennessee and Texas Eastman products.

The region formerly supervised by Mr. Sanders, consisting of the north central and southeast portions of the U.S., has been divided between the midwest and eastern regional offices.

The eastern regional territory will now include the east and southeast states. Robert H. Cannon, sales manager for this region, will continue to maintain his headquarters in New York City.

The midwest region will cover the middle west and north central states. Regional offices will remain at Skokie, Ill., under the direction of Decatur B. Campbell as sales manager.

Sales representation for the Rocky Mountain region and Pacific Coast will continue to be handled by Wilson & Geo. Meyer & Co. through its eight offices.

New Assignments

Mr. Magoffin and Mr. Sanders also announced new assignments and appointments in the chemicals division sales staff.

R. Clay Dubberly has been placed in charge of the Cleveland office, serving northern Ohio. George O. Trabue, formerly in the Cleveland office, will supervise the new sales office soon to be opened in Buffalo. The Buffalo territory will be western New York, western Pennsylvania and southern Ontario areas.

Kenneth E. Cox, formerly sales representative in the St. Louis office, has been appointed district sales manager in the Skokie office. H. Lynn Francisco, a sales representative, has been transferred from the Skokie office to take charge of the St. Louis office, replacing Mr. Cox.

A new office will also be opened shortly in Kansas City to handle part of the area formerly served by the St. Louis office. The new Kansas City office will be in charge of Robert M. Morrow, who is being transferred from Kingsport.

C. P. Echerd, formerly a sales coordinator at Kingsport, has been appointed district sales manager in the New York office.

At the same time, two men received new assignments under the company's "exchange-of-duties" training program, which provides for periodic shifts of duties among members of the staff to broaden their experience and knowledge.

Ralph R. Shelly, formerly in charge of the Cincinnati office, will now serve as a sales coordinator in the headquarters office in Kingsport, while G. C. DeCroes will assume charge of the Cincinnati office. Mr. Shelly will coordinate sales activities for chemical products of the Texas Eastman Co. division in Longview, Texas.

GRAIN INSPECTORS CONVENTION—Recent convention of the National Association of Chief Grain Inspectors and grain division of the U.S. Department of Agriculture in Toledo, Ohio, was attended by 150 inspectors. Seedburo Equipment Co. of Chicago was host to the group at a social hour and corsages were presented to the wives of attending members. Among those attending were the newly-elected officers (from the left): Virgil McNamee, Toledo Grain Exchange, secretary-treasurer; Ray Roland, Lawrenceburg, Ind., vice president; and William L. Hutchins, Denver Grain Exchange, president.

CO-OP PLANS EXPANSION

DANBURY, IOWA—The Farmers Co-operative Oil Assn. of Danbury and Mapleton has announced plans for a $90,000 expansion that will include a warehouse in Danbury and a feed mill and liquid fertilizer plant at Mapleton, Iowa.

FOR THE BEST PRICE IN THE UNITED STATES ON GENUINE HOLLAND BALER TWINE CONTACT SOUTHERN DISTRIBUTING COMPANY, P.O. BOX 4327. TELEPHONE HE 8-1746, MOBILE, ALA.

FOR ALL APPLICATIONS

PAXCO DEHYDRATED CORN COB MEAL is available in six grinds—from the coarsest to the finest — for all feed applications—roughage, pellets and as a carrier for molasses and feed additives. Write today to:

PAXTON PROCESSING CO., INC.
P. O. Box 120 Phone 222 Paxton, Illinois

SCREENS FOR ALL MAKES OF MILLS
Highest quality special analysis steel
HEAT-TREATED OR HARD-FACED HAMMERS
Send sample or specifications
SOUTHWEST MILL SUPPLY CO.
Box 7455—N. Kansas City, Mo.—GR 1-4072

Complete
FEED PLANT
FOR SALE
in Southern Colorado Livestock Area

Other expanding interests force sale of this complete formula feed mill with both hard and soft pelleting equipment, molasses mixing and forage grinding facilities. Located in one of Colorado's richest and most beautiful mountain valleys—a great livestock producing area covering 100 x 40 miles.

Only one other feed plant within 100 miles, practically no competition. Immediate trade area contains some 150,000 head of cattle and calves and more than 400,000 sheep and lambs. Plant has been operating and is in going condition, capable of producing 50 to 75 tons of pellets per day with a better than average profit margin.

Plenty of low-cost hay and grain available locally. Freight costs into the valley assure a major price advantage over outside competition.

A real feed business opportunity. Package deal includes well known trade name and proven feed formulas for this area. Priced for a quick sale on reasonable terms. Good financing available locally for responsible party.

Here's a chance to build a big future in this booming southwestern cattle country with a modest investment.

Write or phone for full information—

Scott Ferguson
MElrose 3-2712
927 Wahsatch Street
Colorado Springs, Colorado

WHAT DO FARMERS REALLY THINK ABOUT YOU . . .

. . . your products, your dealers and your competitors? Why don't more farmers buy your products?

Many have wondered about their own situation and we've helped them find out.

This is not a job best done by your salesmen. If they are good salesmen, they're better talkers than listeners and they're biased.

Let an experienced farm research group find out for you confidentially, and recommend how to capitalize on the findings.

Agricultural Department
BISBING BUSINESS RESEARCH
436 West Wisconsin Ave.
Milwaukee • Wisconsin
Phone BRoadway 2-2550

RECEIVERSHIP SALE!
One of Indiana's Foremost and Most Modern Grain Elevators and Feed Mills
MARTZ GRAIN COMPANY, INC.
CLAY CITY, IND.
MACHINERY, EQUIPMENT, LAND AND BUILDINGS TO BE SOLD IN THEIR ENTIRETY . . . BY ORDER OF THE CLAY COUNTY CIRCUIT COURT . . . TO THE HIGHEST BIDDER AT
PUBLIC AUCTION
TUES., JULY 26, 1960—11 A.M. (C.D.T.)

This operating, modern and fully equipped grain elevator and feed mill is situated in the heart of Indiana's heaviest grain producing area, approximately 1 mile west of Clay City on Indiana highway 246, on approximately 8 acres of land adjoining railroad spur track of the Monon Railroad and is comprised of the following well-built structures which were erected in 1955.

ELEVATOR, HEAD HOUSE, TRUCK DUMP, SILOS AND DRYER HOUSE; 8,000-BUSHEL CAPACITY MILL; FERTILIZER BUILDING; FERTILIZER STORAGE BUILDING; OFFICE AND WAREHOUSE BUILDING; RESEARCH BUILDING; COB HOUSE; AND TWO 9,250-BUSHEL STEEL GRAIN BINS.

The capacity of the mill is virtually unlimited and the present bonded warehouse facilities, of 317,000-bushel capacity, can be substantially increased by utilizing space available in existing buildings.

A. JOHN CASSEL, BRAZIL, IND. • ERNEST H. ROTH, BAINBRIDGE, IND.
Co-Receivers
EUGENE WEAVER, BRAZIL TRUST BLDG., BRAZIL, IND. • THOMAS M. PATRICK, 300 STAR BLDG., TERRE HAUTE, IND.
CHARLES B. FEIBLEMAN, 120 E. MARKET ST., INDIANAPOLIS, IND.
Attorneys for the Co-Receivers

Illustrated Descriptive Circular Mailed on Request

WRITE - WIRE - PHONE
SAMUEL L. WINTERNITZ & CO.
AUCTIONEERS • LIQUIDATORS • APPRAISERS
FIRST NATIONAL BANK BLDG., CHICAGO 3, ILL.

BUY and SELL through WANT ADS

NEW GERBER PLANT—Cecil F. Herring (right), president, and Eugene Bloomgren, shop superintendent, are shown in front of the new Gerber Sheet Metal plant and offices in Minneapolis. The firm, maker of feed and grain handling equipment, has some 30 employees and recently announced purchase of Tierney Rotor Ventilator Co. (Feedstuffs, June 25).

Cornell Reports on Phosphorus Studies

ITHACA, N.Y.—A report on research on the availability of phosphorus in various supplements for cattle has been made by S. E. Smith and R. A. Wentworth of the department of animal husbandry at Cornell University.

They noted that studies to expand information on the availability of phosphorus were undertaken three years ago using rapidly growing dairy calves. Four supplements were studied—dicalcium phosphate, a defluorinated rock phosphate, Curacao Island phosphate and soft phosphate with colloidal clay. Dicalcium phosphate was chosen as the standard for comparison. Two feeding trials, each involving 25 dairy calves, have been completed. All calves were fed a basal low-phosphorus (0.08%) ration to which the supplements were added to bring total phosphorus up to 0.19%, which is slightly less than the phosphorus requirement. The first trial ran for 56 days, the second for 99.

The researchers reported: "In terms of weight gains there were no differences among calves fed dicalcium phosphate, defluorinated phosphate or Curacao Island phosphate supplemented rations, but those fed soft phosphate gained significantly less weight. The bones of calves fed dicalcium phosphate, defluorinated phosphate or Curacao Island phosphate had an ash content that was not significantly different, but the soft phosphate-fed calves had significantly lower ash values. The inorganic phosphorus content of blood serum was particularly interesting since we have found this measure to be a very sensitive one in evaluating the adequacy of phosphorus in the ration. Here the blood phosphorus was highest in those calves fed dicalcium phosphate, intermediate in those fed defluorinated rock phosphate or Curacao Island phosphate and lowest in those fed the soft phosphate. These differences were significant.

"Considering both experimental trials and all measurements used, the phosphorus of dicalcium phosphate was the most highly available, but followed closely by defluorinated rock phosphate and Curacao Island phosphate and least available in the soft phosphate."

UNLOAD BULK CARS *FAST...and SAFE*

ONLY ELBA-WINCHDOZER HAS PUSH BUTTON CONTROL FOR MAXIMUM EFFICIENCY AND SAFETY IN UNLOADING BULK CARS

Elba-Winchdozer provides the most simplified system yet devised for bulk materials handling in box cars. With Elba's exclusive push button control, **at the scoop**, the operator has complete control of the winch and scoop. Built in electromagnetic clutch responds to commands instantly, makes unloading a one man operation that can cut your handling costs in half. Write for full information on this modern bulk handling system. Three models available, all reasonably priced.

ELBA CABLE HANDLING

ELBA CORPORATION OF AMERICA, 97-03 43rd AVENUE, CORONA 68, NEW YORK

Send this coupon ***now*** *for complete specifications*

Elba Corporation of America, Dept. FS-716
97-03 43rd Ave., Corona 68, New York

Please send me full information on your Elba-Winchdozer system for bulk car unloading. I am particularly interested in the: DALLI ☐ BULLY ☐ MOBY ☐

NAME.....

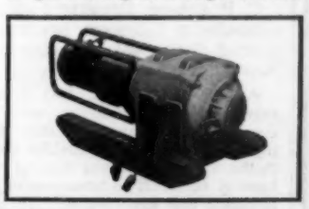
FIRM.....

STREET ADDRESS.....

CITY.....ZONE.....STATE.....

DALLI—Popular standard model. Output—30 tons of soft feed per hour. Generates a pull up to 1400 pounds. Powered by a 2.5 HP electric motor (220-440 volts) or 5 HP gasoline engine. It weighs 480 lbs.

BULLY—Extra power for heavier jobs and increased efficiency. Output—40 tons of soft feed per hour. Generates a pull of 2400 pounds. Powered by a 3.5 HP electric motor (220-440 volts) or 8 HP gasoline engine. It weighs 870 lbs.



MOBY—A duplex unit, basically the same as the BULLY model. Output—80 tons of soft feed per hour. Operates two scoops, each independently controlled by push-button switch. It weighs 946 lbs.

Myvamix®
VITAMIN E
FEED SUPPLEMENT
IS DISTRIBUTED BY:

THE AMBURGO COMPANY, INC.
1315-17 Walnut Street
Philadelphia 7, Pennsylvania

BUTLER CHEMICAL COMPANY
1230 Esperson Building
Houston 2, Texas

E. A. CARTER BROKERAGE COMPANY
308 Stovall's Professional Building
Tampa 2, Florida

FEED PRODUCTS, INC.
1370 11th Street
Denver, Colorado

W. M. GILLIES, INC.
244 California Street
San Francisco 11, California

GOOD-LIFE CHEMICALS, INC.
310 South First Street
Effingham, Illinois

HOLT PRODUCTS COMPANY
Box 840
Milwaukee 1, Wisconsin

KINDSTROM-SCHMOLL COMPANY
418 Flour Exchange
Minneapolis 15, Minnesota

LA VERGNE SUPPLEMENT COMPANY
158 First Avenue South
Nashville 3, Tennessee

M. A. McCLELLAND COMPANY
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CHARLES ALBERT SMITH, LIMITED
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And, of course, you can get it directly from *Distillation Products Industries*, Rochester 3, N. Y. Sales offices: New York and Chicago.

producers of
Myvamix
Vitamin E

Distillation Products Industries
is a division of
Eastman Kodak Company

Sees Varied Outlook For West Grazing

FARGO, N.D. — Summer and fall grazing conditions in 17 western range states will be above average east of the Continental Divide and below average for the inter-mountain region and the Pacific Coast, the North Dakota Crop and Livestock Reporting Service says.

In general the U.S. Department of Agriculture sees range feed supplies in the important livestock areas east of the Divide as adequate to abundant with conditions particularly favorable in the Plains states from North Dakota down through Texas. Feed will be short and below average in most of Wyoming, south central Montana and in the plateau and trans-Pecos areas of Texas, unless additional moisture is received soon, says USDA.

West of the Divide, continued dry weather, plus late frosts, have restricted growth of new feed, and there is now little chance of any significant improvement before late fall, says USDA. Range feed is expected to be short in all of the seven states west of the Divide, except Washington and Arizona, where early growth was more favorable.

USDA says there is no immediate prospect of any substantial forced early marketing of livestock, and that the real impact of the below average grazing conditions probably will come in the fall when livestock are adjusted to available winter feed supplies.

The July 1 range feed condition is slightly above both 1959 and average. East of the mountains, forage growth shows marked improvement over last year in the Dakotas, Kansas and Nebraska, but is well below 1959 in Texas. To the west, the only state reporting a decline from a year earlier is Idaho, with Arizona and California showing considerable improvement from the unusually poor grazing conditions of July 1, 1959. Current soil moisture supplies are short over a wide area.

Cattle and calves made about the normal seasonal gains during June and by July 1 were in near average or better condition, except in Montana, Wyoming, Idaho, Utah and Nevada. In these areas, spring and early summer feed supplies have been short enough to prevent a full recovery of last winter's shrink.

Sharply improved grazing conditions in the Dakotas and New Mexico resulted in above average gains for sheep and lambs in these states. This was largely offset by declines in other areas and sheep condition remained unchanged from June 1.

Dry Spell Damage In North Arkansas

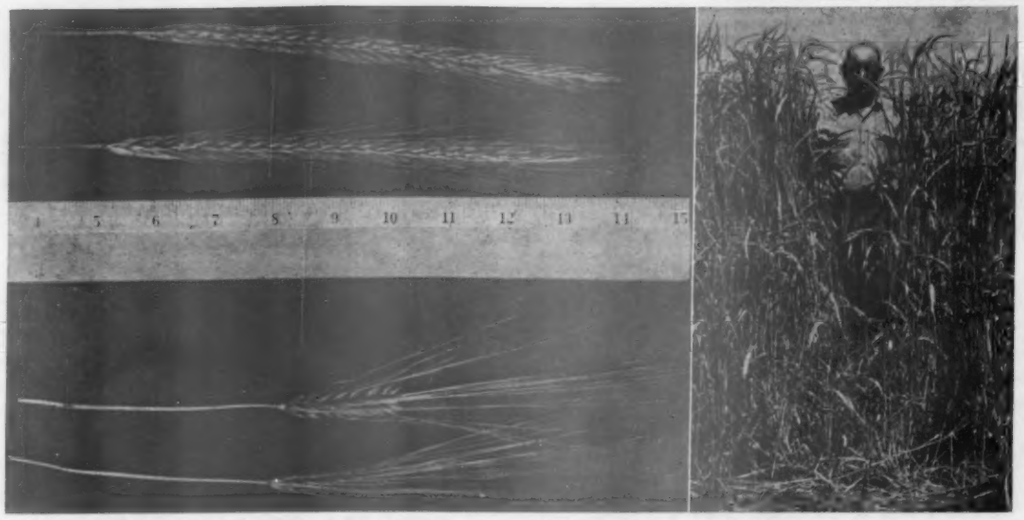
HARRISON, ARK. — A prolonged dry spell has damaged pastures and feed crops in a wide area of north Arkansas. Agricultural officials say heavy rains are needed immediately to restore conditions to normal.

Although the situation does not yet approach that of a serious drouth, farmers and ranchers are reported concerned about the lack of moisture. Feed dealers report a slightly increased demand for cottonseed meal to supplement scanty pastures.

Viking President Dies

DES MOINES—Edward C. Wittler, 40, president and general manager of Viking Feeds, Inc., died at Iowa Methodist Hospital of a heart attack. He had been in ill health for three months.

He had lived in Wapello before coming to Des Moines eight years ago. He was an active member of the Des Moines Feed Club. He is survived by his widow; his mother, Mrs. Emma C. Wittler; a brother, Virgil, of Quincy, Ill., and sister, Mrs. Verl Watson of Winfield.



NEW RYE STRAIN—The Jackson and Perkins tetra-rye Faurex (top, first picture), is compared with the California Mariot rye. The new strain is said to have a much higher grain yield and to produce about 20% more protein. A unique growing method has increased the fertility of the grain. In the second picture, a researcher at the Pleasanton, Cal., research station exhibits the potential of the new strain, Faurex, as a possible replacement of barley as both a grain and forage crop.

Discuss Updating N.M. Feed Laws

SILVER CITY, N.M. — A general updating of New Mexico's feed laws was discussed recently at the summer meeting of the New Mexico Grain & Feed Dealers Assn. here.

The discussion group, led by Dallas Rierson, director of the State Department of Agriculture, reminded the gathering that some laws affecting the feed business have become obsolete and others need modification. The association chose a legislative committee to study the situation and recommend changes to the legislature which will meet next January in Santa Fe. Austin Brooks, Clovis, will be chairman, assisted by Winston Lovelace, Loving; K. I. Langley, Tucumcari, and W. H. Bullock, Artesia.

Ray Bowden, executive secretary of the Texas Feed Dealers Assn., Ft. Worth, spoke on "The Revolution in Agriculture." He said vast changes in the world's agriculture started with the discovery of America, the opening of new farm land and the fact that farming was finally in the hands of free men, not serfs.

"In one generation, free farmers invented almost all of the basic tools used in farming," Mr. Bowden said.

Recent years have seen the application of power to farming techniques and, even more recently, the application of science.

"In the year 1800, we had 19 farmers for every one person in the city. Nowadays, one on the farm feeds ten in the city," he said.

Citing the vast strides of the feed industry, Mr. Bowden pointed out that in the 1930's it took 15 lb. of feed to produce a 3-lb. broiler in 15 weeks. Now, half this feed can produce the same size bird in nine weeks.

Mr. Bowden said that America's modern farm problems started when "politics stepped into agriculture." He called for a reduction in government participation in agriculture and a cut in taxes.

"History shows that no nation has survived when its tax load exceeded 25% of its income. Today, the U.S. tax level is 31% of its income," he said. "Every great nation that has declined has died from within and not by conquest. If America dies, it will be from inside, and we will be the architects of its failure."

Next meeting of the association will be early in 1961. The date and place will be chosen later, says Clarence Worley, president of the association.

Dr. G. M. Briggs Joins University Staff

BERKELEY, CAL.—Dr. George M. Briggs, executive secretary of the biochemistry and pharmacology training committees, division of General Medical Sciences, National Institutes of Health, left that position July 13 to become chairman of the department of nutrition in the College of Agriculture at the University of California at Berkeley.

Dr. Briggs, who received his Ph.D. in biochemistry from the University of Wisconsin, was with NIH since 1951, when he was appointed chief of the nutrition unit of the laboratory of nutrition and endocrinology, National Institute of Arthritis and Metabolic Diseases. In 1958, he took his present position as executive secretary of the two training committees.

Before coming to NIH, Dr. Briggs was an associate professor of poultry nutrition at the University of Minnesota, St. Paul, and a professor of poultry nutrition at the University of Maryland, College Park.

In 1958, Dr. Briggs won the Borden Award ($1,000 and a gold medal) sponsored by the Poultry Science Association, of which he is a member. He also belongs to the American Chemical Society, the Society for Experimental Biology and Medicine, the Animal Nutrition Research Council where he served from 1954 to 1956 on the executive committee, the American Public Health Association, the American Society of Animal Production and the World's Poultry Science Assn. He was secretary of the American Institute of Nutrition from 1957 through June of 1960 and he is a fellow of the American Association for the Advancement of Science.

Dr. Briggs is the author or coauthor of over 100 scientific publications on fundamental nutrition, which have appeared in various journals.

Storage Unit Gutted

PORTLAND, ORE. — A five alarm fire gutted the Globe Dock & Elevator storage and loading shed. The facility is owned by Louis Dreyfus Corp.

Estimates of the loss run to hundreds of thousands of dollars. Fire officials said the blaze was caused by spontaneous combustion in moist wheat dust under the dock.

The storage facility, a huge metal shed nearly as long as a football field, contained thousands of tons of northwest wheat awaiting shipment to Japan. The fire destroyed most of the roof and interior. Damage to the grain from flames, smoke and water was reported as heavy.

Larson & Baardson Announces Change

PORTLAND, ORE.—A corporation change in the Portland mill machinery firm of Larson & Baardson, Inc., has been announced, with Andy Baardson assuming the presidency and managerial responsibilities. The organization has constructed numerous feed mills and grain storage facilities throughout the area and has supplied many items of feed, seed, grain and chemical processing equipment to the trade.

Forrest Larson will establish a new company which will be designed to contract the installation phase of prime contracts developed by Larson & Baardson, Inc., and he will also continue to sell products represented or manufactured by the corporation. Mr. Larson will also direct the activities of Larson & Baardson Service, Ltd., in Canada.

While making the announcement, Mr. Baardson also reported that a new sales policy of Larson & Baardson will provide for greater service to the trade through the main plant in Portland and through the Seattle sales office directed by Walter J. Hartje. He also reported that Stanley Chinn, formerly sales manager with Mill & Elevator Construction Co., Des Moines, has been employed to direct the expanded agricultural sales activities of the corporation, and has already assumed his new duties. All present dealers in the Larson & Baardson organization will continue to offer the products and services of the corporation, and the dealer program is being rapidly expanded.

New programs being inaugurated will increase the manufacturing activity of the firm, as well as improve the availability of complete parts and repair service to the feed, seed, grain and chemical industries, Mr. Baardson said. Stocks of Butler Bulk-O-Matic tanks will continue to be maintained at the Portland headquarters as well as at the Seattle office and warehouse.

Hardy Chairman Dies

ST. LOUIS—The death of Thomas Walter Hardy, 79, chairman of the board and founder of the Hardy Salt Co., has been reported by the firm. Mr. Hardy died July 1.

ELEVATOR BURNS

STURGEON BAY, WIS. — A 62-year-old grain elevator here owned by the Peninsula Feed Co. was destroyed and a warehouse badly damaged in a fire of undetermined origin.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: Demand fair; supply ample; 10,000 A 31¢ lb.; 300 D, 2,250 A 17½¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 750 A 18¾¢ lb.

Denver: Demand stronger; trend small; supply ample; 21¢.

Boston: Demand and supply steady; 400 D, 3,000 A 21½¢ lb.; 300 D, 3,000 A 21¢; 300 D, 2,250 A 19½¢; 300 D, 1,500 A 18¢; 300 D, 750 A 16¢; 75 D, 750 A 15½¢.

ALFALFA MEAL

Los Angeles: Demand slow; trend steady; supply adequate; dehydrated meal, 17% protein, 100,000 A $51@52; dehydrated pellet meal, 17% protein, 100,000 A $53@54; suncured meal, 15% protein $45@46; suncured crumbles, 15% protein $47@48.

New Orleans: Demand fair; trend steady; supply adequate; 17% protein, 100,000 vitamin A $49.50@50, bulk, $54.50@55 sacked.

Boston: Demand slow; supply adequate; dehydrated, 17% $50; suncured, 13% $47.50, sacked.

Ft. Worth: Demand fair for dehydrated; slow for suncured; supply sufficient; sacked, dehydrated, 17%, 100,000 A $49@50, truck or rail, July; suncured, 13% ¼-in. grind, No. 1 $46@47, truck; 15% fine ground, dry $48; with 2% fat added $50, rail or truck.

Memphis: Demand fair; trend higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $42.20.

Philadelphia: Demand slow; trend unsettled; supply fair; 17% $50.

Chicago: Demand fair; trend lower; supply good; dehydrated, 17% protein, 100,000 units of vitamin A $42.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $48, pellets.

Portland: Demand good; trend mixed; supply plentiful; 15% suncured $42@43, sacked.

Buffalo: Demand fair to poor; trend steady to lower; supply adequate; $54, sacked, Boston.

Denver: Demand good; trend steady; supply ample; dehydrated meal $43, sacked; pellets $38, bulk.

Kansas City: Demand good; trend steady; supply ample; 17% dehydrated alfalfa, 100,000 A on arrival, pellets $37@38 bulk, reground $39 bulk; 18% dehydrated alfalfa, 125,000 A on arrival, pellets $40@41 bulk, reground pellets $42 bulk; 20% dehydrated alfalfa, 150,000 A on arrival, pellets $43@48 bulk, reground pellets $46@49 bulk; suncured alfalfa, demand slow, supply scarce, 13% pellets $37@38 bulk, No. 1 ¼-in. $38.50, sacked.

Minneapolis: Market steady; 17% dehydrated, 100,000 units A, reground pellets $42; oiled reground pellets $44.

Omaha: Demand good; trend steady; supply tight; 17% dehydrated, 100,000 A units, bulk pellets $38; sacked meal $43, Omaha basis.

St. Louis: Demand slow; trend steady; supply adequate; suncured, 13% fine, $42 sacked; dehydrated, 17%, 100,000 A pellets, demand fair, trend easy, supply ample, bulk $40.50.

ANIMAL FAT (STABILIZED)

Ft. Worth: Demand fair; supply sufficient; prime tallow, tank cars 5½¢ lb.; drums 7¢ lb., f.o.b. north Texas packing plants with returnable drums.

Denver: Demand fair; trend easy; supply adequate; 6½¢ lb., tank cars and trucks.

Ogden: Supply good; $5.75 cwt.

Boston: Demand and supply steady; tallow 5¾¢ lb.; yellow grease 5½¢ lb.

Chicago: Demand less active; trend easier; supply ample; tank truck or carlots, bleachable fancy tallow $5.62½ cwt., yellow grease $5.12½ cwt.

Kansas City: Demand fair; trend steady; supply ample; prime stabilized tallow 5½¢ lb.

St. Paul: Supply ample; demand good; bleachable fancy at 5½¢ lb., f.o.b. producer's plant.

Louisville: Demand fair; trend steady; supply good; bleachable white 6¢ lb., white tallow 6¼¢ lb., yellow grease 5¾¢ lb., all in tanks.

Salisbury, Md.: Demand good; supply limited; 5½¢ lb.

BARLEY FEED

Baltimore: Demand and supply fair; trend steady; $46.50, sacked.

Chicago: Demand and supply fair; trend firm; $36, sacked.

Los Angeles: Demand fair; trend steady; supply ample; standard rolled $2.80 cwt., standard ground $2.80 cwt., both sacked.

Milwaukee: Demand limited; trend firm; supply ample; feed barley 84¢ bu., bulk; barley feed $37.50, sacked; ground feed barley $41.50 ton in 100's.

Boston: Demand quiet; supply spotty; $48.50 nominal.

Ogden: Supply good; rolled $40@41, whole $35@36.

New Orleans: Demand slow; trend unchanged; supply adequate; $50@52, sacked.

Philadelphia: Demand slow; supply fair; $42.50.

Portland: Demand good; trend firm; supply ample; $40@40.50.

Denver: Demand good; trend lower; supply ample; $2.08 bulk, $2.25 sacked.

BENTONITE (SODIUM)

Chicago: Demand fair; trend steady; supply ample; f.o.b. Wyoming and South Dakota shipping points: 200 mesh $14 and net $13.75; fine granular (30 to 100 mesh) $14.25 and net $14; granular, 20 mesh $16.50 and net $16.25.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 20-ton carlots: 80 granular $21.50, less than carlots $40; 200 mesh fine $31, less than carlots $40.

Denver: Demand small; trend steady; supply ample; $24.50, warehouse, Denver.

BLOOD FLOUR

Louisville: Demand near zero; trend steady; supply good; $75@80, sacked.

BLOOD MEAL

Chicago: Demand fair; trend strong; supply ample; 80% protein $120, sacked.

Los Angeles: Demand slow; trend steady; supply ample; $6 a unit of ammonia, sacked.

Ogden: Supply good; $35 ton in 100 lb. bags, f.o.b. Ogden.

New Orleans: Demand fair; trend steady; supply ample; $75@80, sacked.

Portland: Demand slow; supply adequate; trend unchanged; $110, sacked.

Omaha: Demand fair; trend fair; supply adequate; 80% $95, sacked, Omaha.

Louisville: Demand very slow; trend steady; supply good; $75@80, sacked.

BONE MEAL (STEAMED)

Ft. Worth: Demand fair; supply light; $100, sacked, f.o.b. Ft. Worth local manufacture.

Boston: Demand slow; supply ample; $100.

Los Angeles: Demand slow; trend unchanged; supply adequate; imported $75.75, 20 ton lots, sacked.

New Orleans: Demand slow; trend steady; supply ample; $80@85, sacked.

Portland: Demand fair; trend steady; supply ample; $95@97.50, sacked.

Buffalo: Demand good; trend steady; supply limited; $92, sacked.

Chicago: Demand fair; trend firm; supply adequate; $75@80, sacked.

Cincinnati: Demand slow; trend steady; supply adequate; $85, sacked, Cincinnati.

Denver: Demand and trend steady; supply ample; $110, Denver.

Louisville: Demand slow; trend steady; supply light; $80@85, sacked.

BREWERS DRIED GRAINS

Cincinnati: Demand poor; trend steady; supply adequate; $39.

Chicago: Demand good; trend higher; supply fair; 26% protein $30.50@31.

Los Angeles: Demand slow; trend unchanged; supply adequate; $49.50.

New Orleans: Demand fair; trend easy; supply good; $44@46, sacked.

Ft. Worth: Demand slow; supply sufficient; 26% protein $42.50.

Boston: Demand active; supply tight; 26% $43.

Philadelphia: Demand and supply fair; $41.

Milwaukee: Demand and supply fair; trend firm; $33 bulk, $41 sacked.

Buffalo: Demand and supply fair; trend steady to higher; $41.50, Boston.

St. Louis: Demand good; trend strong; supply adequate; $35.

Louisville: Demand fair; trend firm; supply good; $44, sacked.

BREWERS DRIED YEAST

Portland: Demand narrow; trend steady; supply ample; 11@12¢ lb.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9%@12½¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10½@13½¢ lb., ton lots, sacked.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Pittsburgh: Carlots 10¢ lb.; 5 ton lots 11c lb.; ton lots 11½¢ lb., all sacked.

New Orleans: Carlots 10¢ lb.; 5 ton lots 11c lb.; ton lots 11½¢ lb., all sacked.

New York: Carlots 9½¢ lb.; 10 ton lots 10¢ lb.; 5 ton lots 10½¢ lb.; ton lots 11¢ lb., all sacked, f.o.b. New Jersey.

Los Angeles: Demand slow; trend unchanged; supply adequate; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked.

Boston: Demand and supply steady; 11¢ lb.

Buffalo: Demand fair; trend steady; supply adequate; $9.35 cwt.

Cincinnati: Carlots 11¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

Denver: Demand small; trend steady; supply ample; $4 lb.

Louisville: Demand slow; trend firm; supply good; 10@10½¢ lb., sacked.

BUTTERMILK (CONDENSED)

Boston: Demand and supply steady; 4¼¢ lb.

Los Angeles: Demand slow; trend steady; supply adequate; 15¢ lb., 100 lb. lots; 14¾¢ lb., 500 lb. lots; both in barrels.

Ogden: Supply ample; $4.40 cwt., drum.

New Orleans: Demand slow; trend unchanged; supply fair; $4.25@4.30 cwt. in drums.

Philadelphia: Demand slow; supply fair; $4.25 cwt.

Chicago: Demand fair; trend lower; supply ample; 500 lb. bbl. $3.25@3.50 cwt.

Louisville: Demand and supply nil; trend steady; $4.25 cwt. in paper drums.

CALCITE CRYSTALS AND FLOUR

(All prices net, sacked, including freight)

New York: Crystals $16.28, flour $10.28.

Buffalo: Crystals $17.11, flour $11.11.

Toledo: Crystals $18.96, flour $12.96.

Boston: Crystals $17.63, flour $11.63.

Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Los Angeles: Demand slow; trend unchanged; supply adequate; flour $10.15, 20 ton cars; meal $11.15, 20 ton cars, both sacked.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags, $12.75; 100 lb. bags $12; bulk, boxcar $10.50; bulk, hopper $10; coarse grind $1 premium, delivered Minneapolis.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

CHARCOAL

Los Angeles: Demand slow; trend unchanged; supply adequate; hardwood poultry: $156, less than ton lots; $144.40, ton lots; both sacked.

Boston: Demand and supply light; granular No. 6 $110.

Chicago: Demand fair; trend firm; supply fair; 50 lb. multiwalls $110.

COCONUT OIL MEAL

Portland: Demand slow; supply ample; trend unchanged; $70.50.

Los Angeles: Demand slow; trend steady; supply adequate; copra cake $73.

COD LIVER OIL (FORTIFIED)

Boston: Demand and supply steady; 300 D, 3,000 A 23¢ lb.; 600 D, 2,250 A 20½¢; 300 D, 2,250 A 20¢; 600 D, 1,500 A 19¢; 300 D, 1,500 A 18½¢.

CONDENSED FISH SOLUBLES

Boston: Demand slow; supply plentiful; 2¢ lb.

New Orleans: Demand light; trend easy; supply fair; $37.50@40, f.o.b. Gulf.

Los Angeles: Demand slow; trend unchanged; supply adequate; 2@2½¢ lb.

Denver: Demand small; trend steady; supply plentiful; 3¢ lb., West Coast.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $5 more)

Minneapolis: Feed $39.60, meal $66.60.

Atlanta: Feed $43, meal $70.

Birmingham: Feed $41.60, meal $68.60.

Boston: Feed $44.50, meal $71.50.

Chicago: Feed $33, meal $60.

Cleveland: Feed $40.90, meal $67.90.

Denver: Feed $43.20, meal $70.20.

Ft. Worth: Feed $41.70, meal $68.70.

Indianapolis: Feed $38.20, meal $65.20.

Kansas City: Feed $33, meal $60.

Louisville: Feed $40.60, meal $66.60.

New Orleans: Feed $42.90, meal $69.90.

New York: Feed $44.10, meal $71.10.

Norfolk: Feed $43.50, meal $70.50.

Philadelphia: Feed $43.70, meal $70.70.

St. Louis: Feed $33, meal $60.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $39.

Louisville: Demand nil; trend weak; supply light; $49.45, sacked.

COTTONSEED OIL MEAL

Los Angeles: Demand slow; trend easier; supply adequate; $63@65.

New Orleans: Demand slow; trend easy; supply normal; $63@63.50, sacked.

Wichita: Demand fair; supply ample; 41% old process $69, sacked.

Memphis: Demand fair; trend steady to higher; supply light; prime 41% protein, old process $54.50; new process, 41% solvent, none available.

Boston: Demand fair; supply light; $75, sacked.

Ogden: Supply good; 41% $70@72.

Philadelphia: Demand slow; supply fair; $72.

Ft. Worth: Demand fair; supply sufficient on meal, extremely scarce on hulls; 41% old process $61, f.o.b. mills Ft. Worth; carlots, solvent 2% fat added $56, delivered Ft. Worth, pellets $2 additional, hulls $30.

Cincinnati: Demand poor; trend steady; supply fair; new process $63, old process $62.

Portland: Demand slow; trend easy; supply ample; $69@70.50.

Buffalo: Demand fair to poor; trend steady; supply fair; $75, sacked, Boston.

Chicago: Demand fair; trend firm; supply ample; Memphis basis, hydraulic $54.

Denver: Demand slow; trend steady; supply ample; $59.40, Denver, truck.

Kansas City: Demand slow; trend steady to stronger; supply adequate; 41% old process $55@55.50, Memphis.

Omaha: Demand poor; trend strong; supply tight; 41% solvent $65.70, delivered Omaha.

St. Louis: Demand slow; trend steady; supply adequate; solvent $57.50.

Louisville: Demand slow; trend steady; supply normal; old or new process, both at $63.50, sacked.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9¾¢ lb.; 3,000 ICU 11¢ lb.

D ACTIVATED PLANT STEROL POWDERED

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $66.25, sacked, 100 lb. multiwall bags, bulk $63.25; truck load $67, sacked, in 100 lb. multiwall bags, bulk $64, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $57.07, f.o.b. Tupelo in 100 lb. multiwall bags, $54.07 bulk.

Wales, Tenn.: Minimum phosphorus 13%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18%, $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck loads of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 36%, maximum flourine .19% $74.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $71.35, bulk.

Cincinnati: 18% phosphorus $81.02; 14% phosphorus $71.03, f.o.b. Cincinnati.

Portland: Demand fair; supply ample; trend unchanged; $93.50, delivered, for product carrying a minimum of 18% phosphorus, 31.5% calcium and a maximum of 0.1% fluorine; $92 dock for a minimum of 10 ton lots.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $83, bulk, boxcar/hopper car; $86, bagged, in carloads or truck loads; $96, bagged, in less than carload lots; 21% P, $94.65, bulk, boxcar/hopper car; $97.64, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk 18.5% phosphorus, carlots or trucks $83; 20,000 lb. or more $56 net ton in 100 lb. papers; less than 20,000 lb. $96, basis Chicago Heights, Ill., or Nashville, Tenn.; 21% phosphorus, carlots or trucks, bulk $94.65; 20,000 lb. or more, per net ton in 100 lb. papers, $97.65 and less than 20,000 lb., $107.65, basis Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $86 (or $4.66 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants; California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum calcium 24% $86, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $80.50, sacked in 100 lb. multiwall bags, bulk $77.50, f.o.b. Texas City.

Denver: Demand and trend steady; supply ample; $93.50, truck loads, delivered.

Cincinnati: 18½% phosphorus $92.15, f.o.b. Cincinnati.

DISTILLERS DRIED GRAINS

Philadelphia: Demand good; trend unsettled; supply very light; dark $58, nominal

Boston: Demand active; supply tight; $56, nominal.

Cincinnati: Demand fair; trend steady; supply adequate; $51.50.

Buffalo: Demand good; trend steady to higher; supply poor; $56, Boston.

Louisville: Demand good; trend steady; supply light; bourbon grains: light $48, dark $50, solubles $73, all sacked; production near zero, most all plants down until fall.

DRIED BEET PULP

Buffalo: Too scarce to quote.

Los Angeles: Demand steady; trend unchanged; supply ample; $43.30@43.80.

Boston: Demand active; supply short; $77, sacked.

New Orleans: Demand fair; trend easy; supply adequate; $53@54, papers.

Milwaukee: Demand good; trend steady; supply limited; plain and molasses, both $74.50, Chicago.

Ogden: Supply good; $41@46.

Portland: Demand good; trend steady; supply tight; $51.60, sacked.

Denver: Demand fair; trend steady; supply limited; $75, sacked, f.o.b. Denver.

DRIED BUTTERMILK

Chicago: Demand quiet; trend easier; supply fair; medium acid $11@11.25 cwt., sweet cream $11@11.25 cwt.; both sacked.

Los Angeles: Demand slow; trend unchanged; supply adequate; 13¾¢ lb., sacked.

New Orleans: Demand fair; trend steady; supply ample; $12.50@13 cwt., sacked.

Ogden: Supply ample; $17.25 cwt.

Boston: Demand steady; supply short; 14¢ lb.

Buffalo: Demand fair; trend steady; supply limited; rolled $12.65 cwt.
Milwaukee: Demand fair; trend firm; supply limited; $13@13.50 cwt.
Louisville: Demand dull; trend steady; supply fair; 12½@13¢ lb., sacked.

DRIED CITRUS PULP

Los Angeles: Demand good; trend steady; supply light; orange pulp $38; lemon pulp $36.
New Orleans: Demand fair; trend easy; supply ample; $34.50@36, f.o.b. Florida points.
Boston: Demand slow; supply short; $47.50, sacked, f.o.b. Florida.
Buffalo: Too scarce to quote.

DRIED SKIM MILK

Philadelphia: Demand slow; supply fair; $13 cwt.
Los Angeles: Demand slow; trend steady; supply adequate; 5½¢ lb., less than ton lots; 4½¢ lb., ton lots; both sacked.
New Orleans: Demand slow; supply normal; trend steady; $12.50@13 cwt., sacked.
Ogden: Supply good; $16.15 cwt., drum.
Milwaukee: Demand fair; trend firm; supply limited; $14@14.50 cwt.
Boston: Demand good; supply scarce; 12½¢ lb.
Buffalo: Demand fair; trend steady; supply limited; spray $13.65 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked.
Chicago: Demand quiet; trend easier; supply fair; $10.75 cwt., sacked.
Portland: Demand fair; trend steady; supply good; 13¢ lb.
Minneapolis: Demand fair; supply adequate; price steady but showing slight weakness at $12.50@12.75 cwt.
Louisville: Demand fair; trend steady; supply normal; 12½@13¢ lb., sacked.

DRIED WHEY

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked.
Chicago: Demand only fair; trend easier; supply fair; $4.75 cwt., sacked.
Los Angeles: Demand slow; trend weaker; supply adequate; $5.43 cwt., carloads; $5.60 cwt., L.c.l.; both sacked.
New Orleans: Demand slow; supply normal; trend steady; $6@6.50 cwt., sacked.
Ogden: Supply good; $7 cwt., sacked.
Ft. Worth: Demand fair; supply adequate; carlots, standard $5.75, sacked, delivered Ft. Worth; ton lots $6, f.o.b. warehouse, Ft. Worth.
Boston: Demand fair; supply good; 5¼¢ lb.
Philadelphia: Demand slow; supply fair; $6.25 cwt.
Portland: Demand fair; supply good; trend unchanged; $5.95 cwt., truck load.
Denver: Demand and trend steady; supply ample; $5.75 cwt., truck load.
Kansas City: Demand fair; trend steady; supply adequate; regular or partially delactosed $5.50 cwt., sacked.
Minneapolis: Market unchanged; demand fair; supply ample; $5.45 cwt.
Louisville: Demand fair; trend steady; supply normal; 6@6½¢ lb., sacked.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand good; supply scarce; 85%-87% protein $70@72.50, sacked, f.o.b. trucks, north Texas plants.
Boston: Demand steady; supply plentiful; $69, f.o.b. shipping points.
Los Angeles: Demand slow; trend unchanged; supply ample; $1 a unit of protein, sacked.
Salisbury, Md.: Demand spotty; supply excessive; $70, f.o.b.

FISH MEAL

Milwaukee: Demand limited; trend weak; supply adequate; 60% $115, sacked, Chicago.
Ogden: Supply ample; $1.50 a unit, f.o.b. Coast; 65% $110@112.
Boston: Demand slow; supply plentiful; 60% $93, f.o.b. Gloucester.
Ft. Worth: Demand poor; supply sufficient; sacked, 65% protein Peruvian $94, immediate; $91, scattered August; 60% protein menhaden $99, delivered Ft. Worth.
New Orleans: Demand dull; trend easy; supply normal; menhaden, 60% $94@96, sacked, f.o.b. Gulf; scrap $91@92, sacked, f.o.b. Gulf.
Los Angeles: Demand slow; trend easier; supply limited; local production, 60% protein $1.56@1.57½ a unit, sacked.
Buffalo: Demand fair; trend easier; supply ample; 60% protein menhaden $102 bulk, $107 sacked.
Chicago: Demand quiet; supply liberal; trend easier; sacked: menhaden, East Coast $92@95, Gulf $92@95; menhaden scrap, East Coast $88@91, Gulf $88@91; Canadian herring meal $1.55 a unit of protein.
Cincinnati: Demand fair; trend steady; supply adequate; $132.
Portland: Demand good; trend steady; supply adequate; $1.70 a protein unit, sacked.
Denver: Demand and trend steady; supply plentiful; $1.52 a protein unit, f.o.b. West Coast.
Minneapolis: Demand continues only fair; market steady; Gulf menhaden $111@120, sacked, truck lots, Minneapolis; 76% herring unchanged at $1.56@1.60 a unit, f.o.b. West Coast, immediate shipment; Alaskan herring steady at $1.52 a unit, f.o.b. West Coast; West Coast 60% blended steady at $118@121, sacked, delivered Minneapolis.
Omaha: Demand good; trend slow; supply ample; 60% menhaden $110, f.o.b. Omaha.
Louisville: Demand very slow; supply normal; trend steady; $120@125, sacked.

HAY

Cincinnati: Demand poor; trend steady; supply fair; No. 1 timothy $30; No. 2 timothy $27; mixed clover and timothy $25; No. 1 red clover $32; wheat or oat straw $18@20.
Wichita: Demand low; supply sufficient; prairie $30@32, old alfalfa $25@30, new alfalfa $17, baled.
Los Angeles: Demand slow; trend steady; supply ample; U.S. No. 1 Imperial $34@36; U.S. No. 1 $32@34; U.S. No. 2 leafy $30@31; U.S. No. 2 green $30@31; U.S. No. 3 $28@29.
Ogden: Supply good; second crop being harvested; $22 ton in the field; $24 ton in the barn.
Boston: Demand slow; supply adequate; No. 2 timothy $40@43.
Ft. Worth: Demand fair for alfalfa, practically nil for others; supply sufficient; carlots, baled, No. 1 alfalfa $42@44; No. 2 $40@42; No. 2 prairie, nominal $30@32; No. 2 Johnson, nominal $28@30, delivered Texas common points.
Philadelphia: Demand very dull; supply very light; $24.50@25.50.
Portland: Demand fair; trend steady; supply adequate; $32@34, baled, Portland-Seattle.
Louisville: Demand very slow; trend steady; supply normal; hay, local, any variety, No. 1 $30@32, No. 2 $28@30; straw, any variety $20; new straw now plentiful.

HOMINY FEED

New Orleans: Demand fair; trend easy; supply ample; $49@49.50, sacked.
Milwaukee: Demand and supply fair; trend unchanged; $42 sacked, $37 bulk.
Memphis: Demand poor; trend steady to higher; supply ample; white $40.70, yellow $40.70.
Boston: Demand good; supply ample; $47.50.
Chicago: Demand quiet; trend firm; supply fair; $38.
Cincinnati: Demand fair; supply steady; supply adequate; $40.50.
Buffalo: Demand fair; trend steady; supply fair to good; $47.50, sacked, Boston.
Kansas City: Demand good; trend stronger; supply adequate; white $31.50@32, yellow $32@33.
St. Louis: Demand fair; trend steady; supply ample; yellow $39.
Louisville: Demand very slow; supply light; trend steady; $46, sacked.

LINSEED OIL MEAL

Portland: Demand slow; trend steady and unchanged; supply ample; $54, sacked.
Milwaukee: Demand limited; trend unchanged; supply fair; expeller $71, solvent $62.50, Chicago basis.
New Orleans: Demand slow; trend easy; supply ample; $74.50 bulk, $79@80 sacked.
Los Angeles: Demand slow; trend easier; supply adequate; local production, 31% protein $71, new crop.
Philadelphia: Demand slow; supply fair; 34% $71.
Wichita: Demand fair; supply sufficient; 34% $75, sacked.
Boston: Demand quiet; supply adequate; $71.
Ft. Worth: Demand slow; supply sufficient; 34% protein, solvent $69, rail.
Cincinnati: Demand poor; trend steady; supply adequate; new process $53, old process $60, Minneapolis.
Chicago: Demand only fair; trend easier; supply good; Minneapolis basis: solvent $52.50, expeller $60.50.
Denver: Demand slow; trend steady; supply ample; $71.30, sacked, Denver.
Kansas City: Demand slow; trend weaker; supply ample; solvent process $52@52.50; old process $60@60.50, Minneapolis.
Minneapolis: Solvent steady at $53; expeller $59.50, down $1 from last week.
Omaha: Demand fair; trend steady; supply tight; 34% solvent $57.80, 32% old process $65.80, Omaha basis.
Louisville: Demand dull; trend steady; supply normal; old process $78.50, new process $71.50, both sacked.

LIVER AND GLANDULAR MEAL

Omaha: Demand and trend fair; supply adequate; 65% $180, sacked, Omaha.

MALT SPROUTS

Chicago: Demand good; trend considerably stronger; supply fair; $30.
New Orleans: Demand fair; trend easy; supply ample; $39.50@41, sacked.
Milwaukee: Demand good; trend firm; supply fair: $28, bulk; $35.50, odd weights; $39.50, even weights, 100 lb. sacks.
Boston: Demand and supply limited; $48, sacked.
Cincinnati: Demand fair; supply steady; supply adequate; No. 1 $34.

MEAT AND BONE MEAL

Cincinnati: Demand good; trend stronger; supply fair; 50% meat and bone scraps $74.50, Cincinnati.
Portland: Demand fair; trend barely unchanged; supply ample; $80, sacked.
Chicago: Demand fair; trend firm; supply adequate; 50% protein $75@80, sacked.
Boston: Demand fair; supply ample; $1.05 a protein unit; converted 50% $65.
Ft. Worth: Demand fair; supply sufficient; meat and bone, 50% $70 bulk, $73 sacked, f.o.b. Ft. Worth.
New Orleans: Demand slow; trend easy; supply ample; $82.50@87.50, sacked.
Ogden: Supply good; 50% protein $75, sacked.
Wichita: Demand fair; supply sufficient; 50% $77.50, sacked, Wichita.
Los Angeles: Demand slow; trend easier; supply limited; 50% protein $1.55 a unit.
Buffalo: Demand steady; trend quiet; supply adequate; 50% meat scraps $70 bulk, $77.50 sacked.
Denver: Demand fair; trend easier; supply ample; $64.50, f.o.b. producer's plant.
Omaha: Demand fair; trend stronger; supply adequate; $70, bulk.
Kansas City: Demand good; trend strong; supply tight; 50% $72.50.
St. Paul: Demand and supply fair; steady at $74@78.
St. Louis: Demand good; trend steady; supply adequate; $72.
Louisville: Demand slow; trend steady; supply good; $75@80, sacked.

MILLFEED

Minneapolis: Stronger markets resulting from better demand, reduced production; bagged material selling better than bulk; sacked bran up 50¢@$1 from last week to $34; sacked middlings $38.50 this week, compared with $36@38 last week; red dog $1.50@2 stronger at $49.
Kansas City: Demand good; trend firm; supply of immediate tight; sacked bran $32@32.50, bulk bran $28@28.50; sacked shorts $37@37.50, bulk shorts $34.50@35, bulk middlings $31.50@32.
Chicago: Red dog remains tight; middlings down to $35 first of week but ran into very good buying power at that level; bran down $1 for the week and draggy, while middlings, after staging the recovery mentioned, is still $1 below a week ago; standard bran $32.50, standard midds. $37, red dog $52.50, nominal and unchanged.
Ft. Worth: Demand good; offerings light for immediate shipment; bran, bulk $37, burlaps $40; gray shorts, bulk $42.50, burlaps $46; middlings, bulk $39.50, delivered Texas common points; bran 50¢ higher, shorts 50¢ higher on bulk, $1.50 higher on sacked, middlings 50¢ higher, compared with previous week.
Wichita: Demand fairly good; supply adequate; basis Kansas City: bran $30.75@31.25, shorts $36.25@36.75; both bran and shorts were up 50¢, compared with the preceding week.
St. Louis: Sacked bran $37, shorts $42; bulk bran $33, middlings $36.50.
Omaha: Demand fair; trend steady; supply tight; sacked bran $31.50, sacked gray shorts $37.50, bulk standard middlings $32, all Omaha basis.
Memphis: Demand poor to fair; trend steady to lower; supply ample; wheat bran $35.20, gray shorts $43.20, standard midds. $37.70.
Louisville: Demand slow; trend stronger; supply good; production low; season changes and fumigating; bran $42.10, mixed feed $45.35, shorts $49.10, all sacked.
Cincinnati: Demand poor; trend steady; supply adequate; bran $36, middlings $42.
Boston: Demand active; supply spotty; bran $42.50, middlings $46.50.
Buffalo: Trading irregular; prices in narrow range; sacked differential on bran and middlings narrowed from $6 to $5; bulk bran and middlings off 50¢; sacked bran and middlings down $1.50; red dog steady in a bulk market; quotations July 13: bulk, bran $34@34.50, sacked $39@39.50; bulk middlings $38.50@39, sacked $43.50@44; bulk red dog $53@55.50, sacked $55@60.
Philadelphia: Demand and supply fair; trend unsettled; bran $43, standard midds. $48, red dog $59.
New Orleans: Demand good; trend easy; supply ample; sacked, bran $42.50@43.25, shorts $48@48.75; bulk, bran $39.50@40.25, shorts $46.50@47.25, middlings $42@42.75.
Ogden: Supply good; to Utah and Idaho: red bran and mill run $34, middlings $39; to Denver: red bran and mill run $41, middlings $46; to California: red bran and mill run $41.50, middlings $46.50, f.o.b. San Francisco and Los Angeles.
Denver: Demand and good; trend steady to strong; supply limited; shorts $40.25, bran $34.50, mill run $37.50.
Portland: Demand slow; trend firmer; supply tight; $35@36.
Los Angeles: Standard mill run $40.50@41, demand slow, trend steady, supply adequate; red bran $44.50@45, demand slow, trend stronger, supply adequate.

MINERAL FEED

Sioux City: 50 lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.
Wichita: Demand fair; supply sufficient; all-purpose with iodine, 50 lb. blocks $97.50, 100 lb. bags $92.50, f.o.b. plant.
Ogden: Supply ample; $113 ton in 50 lb. blocks; $103 ton, granular, 50 lb. bags.
Ft. Worth: Demand fair; supply adequate; all-purpose granules $90, block $70; mineral phosphorus 6% granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50 lb. paper bags).
Portland: Demand good; trend steady; supply ample; $44@45, sacked.

MOLASSES

Louisville: Demand slow; trend steady; supply normal; Cuban situation not likely to have much effect; 8¾¢ gal. in tank car lots, f.o.b. Gulf ports.
Minneapolis: Demand fair; supply ample; steady at $27.50, tank truck, delivered.
St. Louis: Demand fair; trend strong; supply adequate; 9¢ gal., tank car, New Orleans.
Ft. Worth: Demand slow; supply sufficient; blackstrap 9½¢ gal., f.o.b. Houston; delivered Ft. Worth truck $22.95, seller's market price on date of shipment.
Los Angeles: Demand excellent; trend steady; supply ample; $19.50, f.o.b. tank cars; $19.75, f.o.b. tank trucks.
New Orleans: Demand fair; trend steady; supply good; 8½@9¢ gal., tank cars and trucks; 600 lb. customers' drums $6.90.
Milwaukee: Demand fair; supply ample; trend unchanged; blackstrap 8½¢ gal., f.o.b. New Orleans.
Memphis: Demand fair; trend higher; supply ample; blackstrap 8¾¢ gal., tank car, f.o.b. New Orleans and $22.50 ton, delivered Memphis, truck.
Boston: Demand seasonal; supply ample; 14¢ gal. in tank cars.
Cincinnati: Demand fair; trend steady; supply adequate; 8¾¢ gal., New Orleans.
Buffalo: Demand fair; trend steady; supply good; 14¢ gal., f.o.b. Albany.
Denver: Demand fair; trend steady to higher; supply ample; 8¾¢ gal., New Orleans; $29.96 ton, Denver.
Kansas City: Demand good; trend firm; supply ample; blackstrap 9¢ gal., f.o.b. New Orleans.

OAT PRODUCTS

Chicago: Demand fair; trend steady to easier; supply ample; reground oat feed $23; No. 1 fine ground feeding oatmeal $72; feeding rolled oats $76.
Los Angeles: Demand slow; trend unchanged; supply adequate; local production, pulverized $62, sacked.
Louisville: Demand slow; trend steady; supply good; reground $33.80, rolled $34.30, feeding $30.80, pulverized $53.30, crimped $68.30, all sacked; no changes over the week.
Minneapolis: Most items off $1 ton; demand easier; buyers apparently waiting to see what new crop, due in two or three weeks, will bring; sacked quotations July 14: feeding rolled oats $78, down $1; feeding oatmeal $67, off $1; pulverized $48.50, steady to down $1; crimped $61, off $1; reground oat feed $24, off $1.
Philadelphia: Pulverized white, demand slow, supply fair $51; domestic, demand slow, supply light $31.50; Canadian oat feed, demand slow, supply light $34, all sacked.
Memphis: Demand poor; trend steady; supply ample; 3½% protein, reground oat feed $31.75.
Ft. Worth: Demand slow; supply sufficient; oat millfeed $47.70, reground $32.70, sacked, new lutes.
Boston: Demand good; supply fair; white pulverized $55.50; reground oat feed $35.50.
Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $48@56.
Portland: Demand fair; trend lower; supply tight; white $54@55.

OYSTER SHELL

Los Angeles: Demand steady; trend unchanged; supply ample; $15.40.
Louisville: Demand slow; trend steady; supply good; in 80 lb. paper sacks $23.45, in 50 lb. paper sacks $23.70; in 25 lb. paper sacks $25.95.
Boston: Demand and supply steady; in paper $26.05.
New Orleans: Demand good; trend steady; supply good; $25@26, papers.
Cincinnati: Demand fair; trend steady; supply adequate; 80 lb. bags $25.85, 50 lb. bags $24.10, 25 lb. bags $26.35.
Portland: Demand fair; supply ample; trend unchanged; $27@35, sacked.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; trend unchanged; 26% $42 sacked, $38 bulk, both Chicago.

PEAT MOSS

Boston: Demand and supply steady; $3.15 bale.
Philadelphia: Demand slow; supply fair; $2.94 bale, f.o.b. pier.
Chicago: Demand and supply fair; trend firm; standard 7½ cu. ft. bale $3.80.
Cincinnati: Demand and supply good; truck loads $3.45, bale, f.o.b. Cincinnati.
Portland: Demand fair; trend steady; supply adequate; $3@3.15 per 5.6 cu. ft. bale.
Los Angeles: Demand steady; trend unchanged; supply ample; Canadian 5.6 cu. ft. bales $3.65.

POULTRY BY-PRODUCTS

Ft. Worth: Demand very good; supply scarce; 55% protein $50@52, sacked, f.o.b. north Texas plants.
Boston: Demand steady; supply tight; $75, nominal.
Los Angeles: Demand fair; trend steady; supply adequate; $1.40 a unit of protein, sacked.
Salisbury, Md.: Demand spotty; supply ample; $50, f.o.b.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250 lb. drums $1.35; 200 lb. in 100 lb. drums $1.35; 100 lb. drums $1.38; 25 lb. drums $1.41, f.o.b. Cincinnati.
Chittenango, N.Y.: Demand good; trend firm; supply ample; standard blends, 90% KI, 10% stearate or carbonate mixture: 100 lb. drums $1.25½ lb.; 200 lb. and up $1.23½ lb., all delivered.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Los Angeles: Demand slow; trend steady; supply adequate; California production, high fat content, bran $48, sacked.
Ft. Worth: Demand fair; supply limited; rice bran $32@33, f.o.b. south Texas rice mills; hulls $5.50, sacked, f.o.b. mills.

SCREENINGS

Chicago: Demand fair; trend steady to easier; supply adequate; ground grain $28.40; Canadian $22.50.
Minneapolis: Canadian supplies even tighter than last week; price up another $1 to $19; little change in domestic trading; same ranges as last week: lights $13@23, mediums $24@33, heavies $34@43; little trading in flax screenings, basis 15% $40 this week.
Cincinnati: Demand fair; trend steady; supply adequate; unground grain screenings $20.50@21.50.
Buffalo: Demand and supply fair; trend steady to higher; ground, sacked $32, New York, lake and rail; unground, bulk $26.50.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

(Sacked)

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; offerings light; south and central Texas crop beginning

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to move; No. 2 yellow milo $1.95@2 cwt., delivered Texas common points.
Ogden: Supply ample; $42@43.

SOYBEAN OIL MEAL

Boston: Demand fair; supply plentiful; 44% $50.50, 50% $56, both f.o.b. Decatur.
Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $53.50, f.o.b. Memphis.
Louisville: Demand dull; trend easy; supply good; $62.40, sacked.
Minneapolis: Creeping price climb halted at $45.50@46, Decatur.
Kansas City: Demand fair; trend steady; supply ample; 44% solvent process $48@49, Decatur.
Omaha: Demand fair; trend easy; supply ample; 44% $54.60, delivered Omaha.
St. Louis: Demand fair; trend steady; supply ample; 44% $52.90.
Ogden: Supply ample; 41% protein $69@71; 50% protein $74@76.
Milwaukee: Demand and supply fair; trend unchanged; $52, Decatur.
Ft. Worth: Demand fair; supply sufficient; 44% $61.50@62.50 July, $62.50@63.50 August; 50% $68@69 July, $69@70 August-September.
New Orleans: Demand slow; trend easy; supply ample; $60@61 bulk, $62.70@64 sacked.
Los Angeles: Demand limited; trend easier; supply moderate; $72.40.
Philadelphia: Demand and supply fair; 44% $50.50, Decatur.
Chicago: Substantial sales of oil to Spain apparently left meal in vulnerable position; generally $1.50@2.50 ton off for the week; meal futures sloppy; July meal dipped down to within 5¢ ton of equalling the low tick for the season. Decatur basis, 44% protein, unrestricted billing $50.50 and eastern trunk line $49; 50% protein, unrestricted $57, eastern trunk line $54.
Wichita: Demand fair; supply sufficient; 44% $63, 50% $69, sacked; 44% $60, 50% $66, f.o.b. Wichita.
Cincinnati: Demand fair; trend lower; supply adequate; $50, Decatur.
Denver: Demand good; trend lower; supply ample; 44% $63.
Portland: Demand fair; trend steady; supply adequate; $72.

TANKAGE

Chicago: Demand fair; trend steady; supply ample; 60% protein $75@80, sacked.
Louisville: Demand slow; trend steady; supply good; 60% $75@80, sacked.
St. Louis: Demand good; trend steady; supply adequate; $73.
Omaha: Demand fair; trend stronger; supply adequate; $72.
St. Paul: Demand fair; supply adequate; trend steady; $74@78, sacked.
Kansas City: Demand fair; trend steady; supply ample; 60% digester $70.
Wichita: Demand fair; supply sufficient; 60% $77.50, sacked, f.o.b. plant.
Ft. Worth: Demand fair; supply ample; 60% digester $76, sacked, Ft. Worth.
New Orleans: Demand slow; supply good; trend steady; 60% $80@85.
Cincinnati: Demand good; trend stronger; supply adequate; 60% digester $74.50, Cincinnati.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; supply limited; 5¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; 50 lb. or more $1.45, less than 50 lb. $1.50, freight allowed to destination.

WHEAT GERM MEAL

Buffalo: Demand and supply fair; trend steady; commercial grade $55, sacked, f.o.b. Buffalo.
Minneapolis: Demand good; supply tight; price up again from $52 last week to $56.
New Orleans: Demand fair; trend easy; supply tight; $62@64, cottons.

NO-HAY

(Continued from page 1)

supply." Both cow herds and sheep flocks already have increased sharply in the state.

Carcass Results

Prefacing his report of final figures on the "no-hay" feeding trial with the above remarks, Dr. Burroughs proceeded to detail the results:

The eight lots of cattle receiving 5 lb. of hay per animal daily averaged about two tenths of a federal grade higher and dressed half a percent higher than the four lots of cattle which received no hay in their rations beyond the first nine days. However, no carcass differences resulted with respect to feeding corn containing different amounts of moisture, the feeding of different levels of stilbestrol or the feeding of supplements containing either soybean or linseed meal.

As to specific federal grades, the "no-hay" cattle averaged a score of 6, which is equal to high Good grade; the cattle on conventional hay-grain rations averaged a score of 6.6, where a score of 7 would correspond with low Choice grade.

Selling prices were $24.35 cwt. for the "no-hay" cattle, and $24.60 for the controls, for a 25¢ cwt. advantage for the controls. Dr. Burroughs pointed out, however, that the "no-hay" cattle carcasses were lighter and therefore did not have to take the "over-800-pound carcass" price cut that was applied to the control cattle carcasses.

All 12 pens of yearling cattle were charged a rather high $28.75 cwt. cost going into the experiment in February, while being marketed the end of June on a weakened fat cattle market. However, estimated margins per steer above cost of feed and the animal, were $24 for the hay-fed cattle and approximately the break-even point on the "no-hay" pens.

As reported previously, all 12 pens of cattle made exceptionally good gains. Those on the conventional ration with hay, averaged 3.56 lb. a day, while the "no-hay" cattle ranged from 2.6 to 3.20 lb. a day. Feed cost per pound of gain was 12.5¢ on the controls, while it ranged from 15.2¢ to 19.3¢ with the four different types of "no-hay" rations fed as a complete, mixed feed. Feed costs assigned were: Ground shelled corn, $1.12 bu.; alfalfa hay, $18 ton; supplement used in the conventional ration, $95 ton, and the various "no-hay" complete mixed rations ranged from $41.80 ton to $49.09 ton.

(A detailed report on the experiment appears on page 72.)

Further Comments

In further comments on the carcass results, Dr. Burroughs noted that no evidence of ruminal parakeratosis was apparent in the carcasses of the "no-hay" cattle.

Marbling of the beef in carcasses from all 12 pens, regardless of ration fed, was poorer in these 1960 trials than in the 1959 trials, he pointed out. This occurred despite the fact that in general the feeding practices followed in the two years were rather similar.

"Despite all the similarities in which the cattle in each of the two years appeared remarkably alike immediately preceding slaughter, nevertheless the 1959 cattle on the rail after slaughter averaged almost two-thirds of a federal grade higher than the 1960 experimental cattle," the nutritionist reported. By next year, he said, he hopes to have some new answers to this problem which will be helpful to feeders, packers and others interested in furthering the feeding industry. "There is a lack of basic information at the present time as to what factors are responsible for excellent marbling and what factors are responsible for poorer marbling in beef animals which have been fed excellent fattening rations for long periods of time." Marbling of fat through the lean portions of carcasses is one of the factors considered favorably in grading.

High Gains Noted

Unusually high daily gains of all the cattle on current feeding trials drew special attention of feeders and others attending the recent Iowa Cattle Feeders' Hey Day. Effects of pre-feedlot implants and the potential advantage of grinding or rolling high moisture shelled corn, were other high-interest topics.

When the 700-800 feeder day visitors toured the Beef Nutrition Farm west of Ames, they viewed fully a dozen pens of cattle on various fattening rations. From the placards posted above each pen, they noted that the slowest-gaining pen of cattle had averaged 2.6 lb. a day over 135 days, while the best gainers had pushed up to the 3.75-lb. mark. All but one of the pens on fattening rations showed 3-lb. or more average daily gain over the 134-day feeding period. And in a trial comparing high-moisture shelled corn with dry, rolled shelled corn, only one of the eight pens recorded less than 3.5 lb. daily gain; that one was 3.47 lb., and all were over a 133-day feeding period.

Among the reasons advanced were these: Stilbestrol was used as a basic ingredient in all rations, including controls; the cattle were on concrete and had no footrot to interfere with gains and, finally, the cattle were of exceptional breeding. They originated at the Moore Ranch, Chinook, Mont., and were the first used by Iowa State from this source.

Implants

Feeders also were interested in the remarks made at the nutrition farm by Dr. Burroughs, the Iowa State nutrition authority, about pre-feedlot implants and their effect on feedlot performance.

"Frankly," said Dr. Burroughs, "I don't know if any of our cattle were implanted before we put them on feeding trials. I didn't consider this to be an important enough factor to ask about. We have found very little difference in feedlot response between cattle implanted before entering the lot and those not treated. The feedlot response to rations containing stilbestrol does come down a bit with previously-treated cattle, but it's very small. Our cattle make just as much total gain in the feedlot, and the average daily rate of gain is essentially no different."

Rolling, Grinding

Dr. Burroughs also emphasized that rolling or grinding high-moisture shelled corn, either when it is placed in or fed out of a silo, would undoubtedly assist feeders in getting much more feeding value from the crop. In current feeding trials, an average of 21% of the high-moisture shelled corn passed through the cattle in whole, undigested form, even though the 35% moisture corn was so soft it could be mashed between a man's fingers.

If this undigested corn had been excluded from the feed conversion figuring, the high-moisture shelled corn would have been 12% more efficient than the dry, rolled shelled corn. This, he pointed out, would have shown an even greater advantage than the 8 to 12% superiority of high-moisture ground ear corn over dry, ground ear corn, demonstrated in previous Iowa experiments.

May Feed Consumption Even With April, But Below a Year Earlier

WASHINGTON — The 1.5 million tons of commercial feedstuffs consumed by livestock and poultry during May advanced the disappearance total for the first eight months of the season to 13.5 million tons—about 200,000 tons less than for the same period of the previous season. May disappearance was about the same as during April, but nearly 100,000 tons below May, 1959.

The U.S. Department of Agriculture reported that disappearance of feed per animal unit in May was 160 lb.—about the same as that recorded for May last year.

USDA said the 8 million tons of oilseed meals consumed during the eight-month period was 355,000 tons below the same months last year.

Production of each of the oilseed meals, except for cottonseed meal, was down from last year. This increase, USDA said, was almost enough to offset the decline in the production of other oilseed meals.

Exports of approximately 641,000 tons oilseed meals this year were reported to be sharply above the 379,000 tons exported last season, while imports of 37,400 tons, October-May, were 100,000 tons below the previous season.

Stocks of oilseed meals at processing plants at the end of May were 19% above last year. Consumption of soybean meal, October through May, totaled 5.7 million tons as against 6.1 million last year. Cottonseed meal consumption for the eight-month period was listed at 1.9 million tons, an increase of 145,000 tons.

Consumption of grain by-product feeds totaled 4.6 million tons, October through May, which was 244,000 tons more than for the same months a year earlier. Wheat millfeeds accounted for 110,000 tons of the increase; gluten feed and meal, 78,000; rice millfeeds, 39,000, and the others, smaller amounts.

USDA noted that alfalfa meal production started later this year, but, even so, May output was sharply above a year earlier. Fish meal supplies, October through May, of 152,600 tons were down sharply from last year, reflecting smaller production and imports.

SUPPORTS PENB—A. J. Claeys, plant manager of the Kroger Egg Plant, Wabash, Ind., has announced that his company is coordinating an egg producer program among its producers in north central Indiana to voluntarily support the Poultry and Egg National Board. Mr. Claeys stated that all Wabash plant shippers who agreed to the program started their contributions last month. Shown at the signing of the agreement are (left to right): Robert L. Hogue, executive secretary, Indiana Poultry Assn.; Mr. Claeys, and Carroll Eller, Warsaw, president of the Indiana association and a director of PENB.

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Broiler Price Average In Delmarva Climbs to 20c First Time in 1960

SALISBURY, MD. — Delmarva broiler prices have been averaging over 20¢ lb. for the first time this year.

The average for last week was 20.11¢. The week before it was 18.72¢ and a year ago it was 17.68¢. It has not been since Dec. 19, 1959, that a week of prices have averaged 20¢ or better.

For 22 important broiler producing states, hatcheries have cut their egg set. Last week a total of 47,370,000 eggs were set. This was 4% below the previous week and only 3% above the corresponding week a year ago.

Settings were down from the previous week in 17 of the 22 states. The states showing sizeable decreases were Georgia, Indiana, Alabama, Mississippi and Missouri.

Broiler chick placements in the 22 states totaled 36,547,000. This was 2% below the previous week but 9% above the corresponding week a year ago. Decreases were reported for 15 states compared with the previous week. The states showing appreciable decreases included Alabama, Georgia, Arkansas, Texas and Louisiana.

EGGS

(Continued from page 1)

seasonably cool weather in the heart of the egg belt.

Penitent optimists at USDA now admit reluctantly that they may have set their sights too high on late summer-early fall egg prices. But still they believe that egg prices at the national farm level will reach 36¢ before late fall.

On the basis of USDA data, this forecast would mean that a high farm price would be attained this year—compared with the 1958 records—during July-September. In 1958, the range during this period was between 36 and 41¢.

Word of Caution

After the failure of earlier USDA forecasts to reach fulfillment, one must view even this renewed optimism with caution, notwithstanding the obvious drive of USDA to get the egg market into a higher price bracket.

A frozen egg buying program could be the very influence which could bull the current market. But to attain maximum results it is seen that it will be necessary for Mother Nature to cooperate by producing a prolonged heat wave in major egg states such as Iowa, Missouri and Minnesota, causing liquidation of old hens and a marked slowdown in egg lay.

TURKEYS

(Continued from page 1)

should get the most for the taxpayer's dollars.

If this program is promulgated and announced, it will be timed to make the most of removal at a time when it will have the biggest price effect, of course, without boosting the seasonal price of the holiday delicacy out of range of the consumer pocketbook.

Indeed, economics as practiced by politicians and USDA agents is a strange melange. If one wishes to halt overproduction, should he encourage overproduction by rewarding an industry or a group of producers for its excesses?

Indeed, it is something like a cure for an alcoholic by sending to his rest home a case of 100 proof bourbon.

MRS. KNIGHT DIES

ATLANTA, GA.—Funeral services were held recently in Pineville, La., for Mrs. W. H. Knight, 69, mother-in-law of William L. Kinard, secretary of the Georgia Feed Assn. Mrs. Knight died in Atlanta.

MINERALS

(Continued from page 1)

AFMA officials pointed out that the industry has been given an opportunity to review the new proposal, and all AFMA members were advised in advance of the two restrictions now proposed. In view of the advance notice and the opportunity to contact FDA, AFMA does not propose to file any objection at this time.

Sixty days after publication in the Federal Register are allowed for all interested persons to make comments on the new proposal. These comments will be considered by the FDA commissioner in drafting the final order. Interested persons may submit their views in writing (in quintuplicate) to the Hearing Clerk, Department of Health, Education and Welfare, 330 Independence Ave. S.E., Washington 25, D.C.

Included in the new FDA list are compounds which are sources of cobalt, copper, iodine, iron, manganese and zinc.

As noted above, specific limits are proposed only for added cobalt and copper for certain animals. The other minerals would be regarded as safe when used in accordance with good feeding practice to supply nutrient requirements, taking into account the mineral content of available feed and the environment.

FDA said the restriction on cobalt is based on the advice of consultants that a larger amount causes a condition known as polycythemia—an increase in number of red blood cells. The safe limit for added copper rests on the observation that the normal growth of sheep on western ranges is inhibited with the addition of copper salts in excess of 10 parts per million of the ration.

Following is a partial text of the new FDA proposal:

Substances That Are Generally Recognized as Safe

Trace minerals added to animal feeds. These substances added to animal feeds as nutritional dietary supplements are generally recognized as safe when added at levels consistent with good feeding practice. Cobalt and copper compounds added to rations of certain species in excess of specified quantities are not generally recognized as safe. These conditions are described in the footnote to the following list:

Element	Source Compounds
Cobalt*	Cobalt acetate Cobalt carbonate Cobalt chloride Cobalt oxide Cobalt sulfate
Copper*	Copper carbonate Copper chloride Copper gluconate Copper hydroxide Copper oxide Copper sulfate
Iodine	Calcium iodate Calcium iodobehenate Cuprous iodide Diiodosalicylic acid Ethylene diamine dihydriodide Potassium iodate Potassium iodide Sodium iodide Thymol iodide
Iron	Ferric ammonium citrate Ferric chloride Ferric oxide Ferric phosphate Ferric pyrophosphate Ferrous carbonate Ferrous gluconate Ferrous sulfate Reduced iron
Manganese	Manganese acetate Manganese carbonate Manganese chloride Manganese dioxide Manganese gluconate Manganese oxide Manganese sulfate Manganese phosphate (dibasic)
Zinc	Zinc acetate Zinc carbonate Zinc chloride Zinc oxide Zinc sulfate

*Exceptions to general recognition of safety: Cobalt added to the rations of non-ruminant species in excess of 0.0001% of the total daily feed intake of the animal.

Copper added to the rations of sheep in excess of 0.0010% of the total daily feed intake of the animal.

Housewives Ignore Broiler Brands, Grades

LOS ANGELES—Housewives ignored brands and grades of broilers . . . Length of storage time of shell eggs did not result in any significant differences in acceptance of soft-boiled eggs . . . Fryer specials seem to be losing their impact as store traffic builders.

These were some of the findings in poultry marketing research pointed out in a recent Pacific Dairy & Poultry Assn. bulletin.

BRANDS AND GRADES—Consumer tests in and around Wilmington, Del., indicated that broiler brand names mean nothing to housewives, and not one in a survey of 576 city and suburban housewives mentioned grade as a point considered in buying. Freshness was the answer for purchasing from a particular source, and characteristics most preferred in broilers were meatiness and plumpness.

EGG FRESHNESS—A University of California consumer preference study indicates length of storage time of shell eggs (2, 21, 35 or 49-day-old eggs) bore no statistical difference in acceptance of soft boiled eggs by consumers. Storage temperature of all eggs was 55°. Only 3 to 4% of the 5,129 consumers tested at the Los Angeles and Sacramento fairs considered eggs in each storage period from 2 to 49 days old to be poor or very poor in flavor.

LOSS LEADERS—A study in central Maine by the University of Maine indicated that fryer specials are losing their impact as traffic builders in supermarkets. Over a 16-week period, fryer specials sold 8% more pounds of fryers, but gross returns from fryers were 11% less during specials than when usual markups were taken. Average markup prices were 43.9¢, and during specials prices averaged 36.5¢, a mark-down of 7.4¢.

Kansas Schedules 5 Veterinary-Nutrition Conferences in July

HUTCHINSON, KANSAS — A series of five veterinary-nutrition conferences designed to coordinate the operations of the veterinarian and feed men to attain objectives have been scheduled July 23-27 in Kansas.

The meetings—sponsored jointly by the Kansas Veterinary Medical Assn., the Kansas Grain & Feed Dealers Assn. and the Midwest Feed Manufacturers Assn.—have been set for Garden City July 23, Abilene July 24, Seneca July 25, Wichita July 26 and Chanute July 27.

A major purpose of the conference, as listed by the Kansas Grain & Feed Dealers Assn. is to create "better relations between the veterinarian and the feed manufacturer and feed purveyor with emphasis on the part of each in the interest of helping the farmer do a better job with his livestock."

General program subjects will be: "Working Together," "Our Mutual Problems," "Animal Nutrition," "Our Professional Responsibilities as Veterinarians," "Feed Additives and Drug Compounds — Their Use and Function," "How We Can Better Serve the Livestock Producer (panel)" and "Trends in Agriculture."

Lloyd Larson, executive vice president, Midwest Feed Manufacturers Assn., Kansas City; Maxwell Cooley, Hoffman-Taff, Inc., Springfield, Mo.; Orris Case, Kansas Grain & Feed Dealers Assn., Hutchinson, and Dr. M. W. Osburn, secretary, Kansas Veterinary Medical Assn., Manhattan, will speak at all five sessions. Other speakers and panelists will vary.

Another part of the program will be a showing of a new visual presentation called "Opportunity Knocks . . . At Home Plate." This slide and sound presentation, prepared by Bill Larson of Kansas City, is designed to show the role of the feed industry.

A social hour and dinner will follow the main program with a Kansas State University dinner speaker talking on "Trends in Agriculture."

Registration starts at 1:30 p.m. with the program beginning at 2 and the social hour and dinner at 5:30 p.m.

Oilseed Meal Futures Move Up and Down

MEMPHIS, TENN.—Oilseed meal futures prices moved up and down on the Memphis Board of Trade the past week.

Trading in soybean oil meal increased, with fair interest in spreading operations between old crop months. Some sales on the immediate option became more persistent in anticipation of trading at present cash levels before July expires on the board.

Trading developed in old crop cottonseed oil meal at the $54 level. There was some new crop buying and selling interest, although few dealings occurred.

Cash business was reported by brokers to be fair in both soybean oil meal and cottonseed oil meal. Supplies were light in cottonseed oil meal, but ample in soybean oil meal. Practically no cottonseed oil meal is being produced in this area. Some mills, it was reported, have sacked meal to offer, but are not anxious sellers.

Formula feed demand picked up from the previous week, brokers said.

Memphis basis soybean oil meal closed July 12 unchanged, compared with one week earlier; unrestricted soybean oil meal $2.25 lower to 50¢ higher, and bulk solvent cottonseed oil meal unchanged.

Trading volume for the period amounted to 8,900 tons of unrestricted soybean oil meal and 600 tons of bulk solvent cottonseed meal.

LAYERS

(Continued from page 1)

this year was set at 5,176 million eggs.

Aggregate egg production, January through June, was 3% below the same period of 1959.

The rate of egg production per layer in June was 18.39, compared with 18.24 during June last year. This increase of 1% set a record for the month. Rate of lay on July 1 of this year was 59.9 eggs per 100 layers, also 1% better than on July 1, 1959.

Hens and Pullets of Laying Age and Eggs Laid Per 100 Layers on Farms, July 1

Year	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
	Hens and Pullets of Laying Age (thousands)						
1949-58 (average)	47,729	53,960	75,051	28,345	44,675	31,975	282,534
1959	46,442	52,006	70,411	32,660	40,715	36,086	278,320
1960	43,727	50,973	68,524	33,924	41,241	39,925	278,314
	Eggs Laid Per 100 Layers (number)						
1949-58 (average)	54.6	55.0	56.5	50.1	47.8	57.9	54.0
1959	58.5	60.2	60.1	58.0	54.2	63.8	59.2
1960	59.3	60.9	61.6	59.6	53.9	62.5	59.9

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
May 7	1,061	447	923	847	123	706	1,966	2,159
May 14	1,121	510	901	817	135	697	2,134	2,205
May 21	1,123	548	668	909	88	724	2,214	2,150
May 28	1,214	483	756	958	167	777	2,436	2,130
June 4	1,144	456	832	1,082	127	768	2,319	2,152
June 11	1,145	436	828	908	91	746	2,208	2,342
June 18	1,231	456	872	849	78	789	2,212	2,246
June 25	1,159	482	711	782	111	765	2,198	2,261
July 2	1,161	516	821	756	133	815	2,202	2,173
July 9	1,158	440	758	772	107	760	2,176	2,154

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
May 7	1,230	664	3,373	344	7,898	235	4,465	2,529
May 14	1,307	639	3,454	359	7,814	268	4,550	2,673
May 21	1,513	556	3,500	381	8,082	187	4,430	2,709
May 28	1,474	573	3,556	386	8,078	251	4,361	2,744
June 4	1,368	528	3,689	355	7,923	233	4,442	2,608
June 11	1,325	621	3,526	386	7,873	228	4,410	2,687
June 18	1,199	608	3,504	360	7,710	213	4,248	2,703
June 25	1,127	589	3,584	375	7,690	233	4,184	2,775
July 2	1,178	574	3,356	340	7,449	204	4,265	2,695
July 9	1,132	625	3,364	377	7,298	209	4,057	2,705

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1960	1959
May 7	4,085	461	2,685	360	276	1,191	37,980	34,674
May 14	4,433	445	2,757	317	267	1,233	39,019	34,615
May 21	4,524	471	2,816	349	251	1,176	39,369	34,435
May 28	4,519	481	2,706	349	233	1,087	39,709	34,578
June 4	4,406	533	2,658	385	290	1,142	39,360	34,791
June 11	4,376	482	2,591	360	268	1,236	39,118	35,135
June 18	4,348	589	2,473	284	262	1,197	38,448	34,516
June 25	4,279	551	2,482	389	329	1,133	38,189	34,136
July 2	4,200	556	2,331	349	270	1,105	37,449	34,340
July 9	4,064	449	2,217	326	301	1,098	36,547	33,667

ADM Discontinues Linseed Processing

MINNEAPOLIS — Archer-Daniels-Midland Co. will soon cease production of linseed oil and meal.

John H. Daniels, ADM president, this week announced that the company, in recent years one of the nation's largest flaxseed processors, is closing permanently its Minneapolis linseed oil mill—the only one the company has left in operation.

Mr. Daniels expressed the company's regret in making the decision but said it was necessary because operation of the mill—built in 1902—no longer is economically feasible. He noted, however, that the company will "maintain its position as the major marketer of linseed oil and linseed meal" by buying these products from other manufacturers and reselling them through its marketing organization.

ADM will continue to operate its 14½ million bushel grain elevator adjacent to the mill as a terminal grain facility.

"Although ADM was founded as a linseed oil company," Mr. Daniels said, "linseed oil has become a minor part of the business as ADM diversified and broadened its activities into many other fields."

Company officials noted that the decreasing use of linseed oil is illustrated by the fact that during World War II, when demand for fats and oils was at an all time high, domestic consumption totaled 813 million pounds, but by 1957 U.S. use had fallen to 469 million pounds. It is expected that domestic consumption will run under 400 million pounds this year.

About 350 workers are employed in connection with the linseed oil mill, which will be closed in stages, probably requiring a month or two.

To Demonstrate Hay Wafering Machine

LINCOLN, NEB.—A recently developed hay wafering machine will be demonstrated at the 9th annual Tractor Power and Safety Day scheduled for July 21 on the University of Nebraska's farm campus in Lincoln.

Professor Lloyd Hurlbut, chairman of the department of agricultural engineering, says the machine will be shown here by the International Harvester Co.

Other new pieces of equipment to be displayed include a portable pelleting machine.

V. W. Cory T. D. Griffin

3 California Feed Firms Name Officers

Election of V. W. Cory as president of the Ambler Milling Co., San Gabriel, Cal., and T. D. Griffin as president of both Bell Grain & Milling Co., Pomona, Cal., and Bell Milling Corp., Escondido, Cal., has been anounced. The Moorman Mfg. Co., Quincy, Ill., is the parent company of all three firms.

Mr. Griffin is on the board of directors of Ambler Milling, and Mr. Cory is vice president of the two firms which Mr. Griffin is heading up.

Other officers of Ambler Milling are: R. N. Mathes, vice president and general manager; Allen Burwell, secretary, and William Story, treasurer. Directors are Mr. Burwell, Mr. Griffin, C. Holmes and R. B. Hulsen.

Mr. Griffin, Mr. Cory and William Story, are president, vice president and secretary-treasurer respectively of both Bell Milling Corp. and Bell Grain & Milling Co. Mr. Holmes was reelected to the Bell Milling Corp. board, and he, along with Matt Hall and Mr. Hulsen, was named to the Bell Grain & Milling Co. board.

Mr. Holmes and Mr. Hulsen are officers in the parent company of the three firms.

FDA Announces Dow Petition on Coccidiostat

WASHINGTON — The Food and Drug Administration announced that Dow Chemical Co. has filed a food additives petition proposing an amendment of the order which cleared the use of zoalene as a coccidiostat in feed for chickens.

Published in the July 9 Federal Register was an announcement that Dow has petitioned for a regulation amendment to include the use of zoalene in the prevention and control of coccidiosis caused by Eimeria acervulina, Eimeria brunetti and Eimeria maxima. The previous regulation cleared zoalene for use in prevention and control of cecal and intestinal coccidiosis caused by Eimeria tennella or Eimeria necatrix.

Dr. D. R. Dowden Joins Commercial Solvents

NEW YORK—Dr. Donald R. Dowden has joined the market development department of Commercial Solvents Corp. as an animal nutrition specialist, it was announced by Dr. Frank E. Dolian, manager of the department.

D. R. Dowden

Dr. Dowden will concentrate on the development of new markets for Baciferm—a zinc bacitracin feed supplement. He will contact agricultural experiment stations, colleges and universities and arrange feed trials and other animal nutrition studies. Dr. Dowden will make his headquarters in New York City.

A native of Kentucky, Dr. Dowden attended schools in Campbellsburg. He received his college training at the University of Kentucky where he also received his Ph.D. in dairy nutrition. From 1956 to 1960 Dr. Dowden served as an instructor and research assistant at the college.

Feed Mill Planned

CONNELL, WASH. — Connell Grain Growers, Inc., has awarded a contract for the conversion of its bean warehouse into a grain rolling and mixing plant. Larson & Baardson, Inc., Portland, will install the mill. The plant is expected to be ready for operation early in October.

The changeover is designed to meet a growing need in the area for milled grains for the increasing number of cattle feeders, both in the irrigated district and among dryland farmers, reports Dell C. Smick, manager.

Virtually all the equipment now in the building for beans, mainly the cleaning machines, will be utilized in the new operation. The plant will represent an investment of approximately $75,000, including building, existing equipment and the new facility.

Fisher Announces Staff Promotions

SEATTLE—With the start of the company's fiscal year July 1960-61, John L. Locke, president of Fisher Flouring Mills Co., announced promotions of long time members of the organization and other staff appointments.

Harold A. Herzog, formerly warehouse superintendent, has been appointed manager of the research and promotion department, with headquarters in the main office in Seattle. He has been with the company 34 years. He remains as president of the Harbor Island Dock & Warehouse Co. and will be available for consultation in connection with the warehouse operations.

Mr. Herzog's successor is Kenneth Mead, with the firm 32 years. Mr. Mead formerly was warehouse foreman, a post now filled by Ray Haughton, who has been with Fisher for 28 years.

Harry Gulin has been named purchasing agent, succeeding Thomas Wood, retired after 39 years with Fisher, the last 19 years as purchasing agent. Mr. Gulin joined the company in 1938, and worked up through the mill to become storekeeper in charge of handling, distributing and requisitioning maintenance repairs and renewal requirements.

John B. Hashagen, formerly of Chicago, an engineer, is a new staff appointment, responsible for the maintenance, replacement and new equipment installations at the Seattle mill.

LETTERS

(Continued from page 6)

dustries, Inc., was a fatty acid which met the specifications of a fat for blending to make No. 2 Tallow. There was no foreign substance added to the No. 2 Tallow either by Emery or Kentucky Chemical. The tarry residue referred to was a result of the distillation process and was not used in the No. 2 Tallow sold to Kentucky Chemical and was not a part of the tallow sold to the chicken feed manufacturers.

Chicken edema was apparently caused by the fatty acid distillate sold by Emery. No one in the feed or fat industry, or so far as we know in the F.D.A., was aware of the possibility that fat distillate could contain anything which was toxic to chickens. Tests have now shown that there is a peculiarity about the biochemistry of a chicken which causes the chicken edema. Feeding tests on turkeys, cattle and hogs have failed to establish a similar effect. Studies are being continued to isolate and identify the causative agent.

When the probable cause of the chicken edema became known, the feed manufacturers changed their specifications for fats to preclude the possibility of a recurrence and fats are now being purchased on these amended specifications.

Kentucky Chemical and Emery were not "required to make a partial repayment." Settlements have been made of claims presented by the feed manufacturers for the losses they incurred. However, the settlements were all on a very low compromise basis due to the fact that the product sold was the same as that which the feed manufacturers had ordered; namely No. 2 Tallow, and due to the further fact that the feed manufacturer, unlike the ultimate consumer, has a responsibility to determine for itself the suitability of products purchased by it for its particular purposes.

As stated, both Kentucky Chemical and Emery Industries, as well as the feed manufacturers, were unaware of the peculiar effect which certain fats could have on young chickens. However, innocence of intention or lack of knowledge is no defense to a charge of violations of the Pure Food and Drug laws. Such violation is established solely by the effect of the product on the consumer. For this reason, Kentucky Chemical Industries, Inc., and Emery Industries, entered a plea of guilty to the charge of violation of the act.

We want to emphasize the fact that neither of the companies in any way misrepresented a product sold to feed manufacturers or violated any established trade practices as existed at the time this unfortunate occurrence took place.

C. R. Bierne, Attorney

(Editor's Note: The news story to which Mr. Bierne refers quotes an enforcement report issued by the Food and Drug Administration. It appeared on page 24 of the July 2 issue of Feedstuffs.)

Alfalfa Processors Plan Summer Outing

ERIE, MICH.—The Alfalfa Processors Assn., Inc., has completed plans for its annual summer fun outing. This event will take place at the Kildare Country Club, Ottawa, Ohio, July 21.

Members and associate members, their ladies and guests are invited. Also invited are those connected with the feed industry.

Festivities will begin at noon with cocktails and lunch. Planned also are golf, games, tours and dancing. An outdoor chicken barbecue will be served in the evening. Reservations may be made by writing Joe Cousino, Box 848, Erie, Mich.

MARKETS

(Continued from page 2)

over-all demand appeared moderately slow and was limited mainly to immediate and prompt shipment needs, trade sources indicated that offerings of principal feedstuffs were in firm hands.

Alfalfa meal listings averaged easier as suncured was quoted as much as $1 ton lower, while dehydrated alfalfa meal quotes held steady.

Wheat millfeed quotes firmed under tight supplies and were generally 50¢ ton higher at the close. Oilseed meals followed an irregular price trend, with soybean and linseed meal quotes steady, while copra and cottonseed meals closed with a soft undertone as the result of a narrow demand.

Pacific Northwest hay prices held unchanged and mostly steady, with lighter offerings balancing the slower demand at Portland and Seattle.

Ohio Valley

This week, for the first time in a month or more, Ohio Valley farmers have been able to work steadily through each day under clear skies and with temperatures in invigorating low 80's. Fields drenched with heavy rainfall during previous weeks were drying out rapidly, and farmers thus were able to make good progress in catching up with hay, wheat and rye harvesting.

With supplies of several grades of eggs and both live and dressed poultry reported in short supply at wholesale markets, prices firmed this week, with most-wanted grades of eggs advancing 1¢ or more in retail price, and ready-to-cook poultry up 2¢ or more.

Feed manufacturers reported a slight but steady improvement in sales of turkey and hog feeds, and a better demand for egg mashes and other feed mixes. As a result, work schedules were being maintained at 40 hours.

Mountain States

The trade reports very little change in the formula feed market here. Supplies of nearly all commercial feeds are adequate and prices generally remaining steady to lower.

Dealers look for generally lower prices in the fall because of near-record crops of corn, milo and other feed grains.

Scientists Explain New Merck Coccidiostat

TORONTO — Feed manufacturers in the Toronto area of Canada, where Merck's new coccidiostat "Amprol" (amprolium) was introduced recently, heard a team of scientists from the Merck Sharp & Dohme Research Laboratories describe the results of a broad testing program for the new product.

Drs. David F. Green, Ashton C. Cuckler and Walther H. Ott told manufacturers at the Merck-sponsored symposium that months of experience under floor-pen conditions verified laboratory results that Amprol is effective in preventing outbreaks of coccidiosis.

They said that a concentration of 0.0125% in feed showed amprolium to be effective against pure or mixed infections of the economically important coccidia in chickens. This level provides a wide margin of safety, they added, because feeding studies indicate that growing birds and laying hens tolerate at least 0.05% amprolium, four times the suggested level.

The research team also pointed out that "Amprol" is compatible with the vitamins, minerals, antibiotics and other ingredients commonly used in commercial feeds.

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Cyanamid Markets Leptospirosis Vaccine

NEW YORK—Leptospira pomona bacterin, a new vaccine developed by American Cyanamid Co. for use against leptospirosis in livestock, will be available to the trade this month. E. H. Smythe, marketing director for the agricultural division, who made the announcement, stated that the new product will be sold under the trademark of Lebac and will be available to farmers through all veterinary product outlets.

Leptospirosis is a highly contagious disease that causes abortions, death losses and a general lack of thriftiness in young animals and is transmitted to man.

Lebac is a chemically-killed whole-broth culture of leptospira pomona organisms recommended for use in protecting cattle and swine against this disease. The dosage is 5 cc. introduced intramuscularly or subcutaneously in cattle and intramuscularly in swine. Immunity begins to develop shortly after vaccination with maximum protection in 12 to 14 days.

"Antibiotics do not interfere with immunity and are recommended for treating swine with leptospirosis, officials pointed out. "Aureomycin chlortetracycline as an additive in swine rations was cleared by the Food and Drug Administration in 1958 and has shown favorable results in suppressing outbreaks of leptospirosis."

Eight-State Strike Ends in 12 Hours

DENVER, COLO.—The eight-state walkout against the Colorado Milling & Elevator Co. by some 1,100 grain mill workers lasted less than 12 hours July 9, as members of the American Federation of Grain Millers accepted a compromise settlement and returned to work by noon.

The strike began when talks broke down over the issues of pay increases and vacation benefits late Friday.

The workers struck facilities in Colorado, Kansas, Nebraska, Missouri, Illinois, Oklahoma, Utah and Idaho.

The new agreement provides a 9¢ hourly pay increase, according to Max Erlich, the firm's secretary.

USDA Accepts Bid For Frozen Caponettes

WASHINGTON—The U.S. Department of Agriculture accepted a negotiated bid for conversion of approximately 422,000 lb. of USDA-owned frozen caponettes to a canned boned meat product. This completes transactions begun in mid-May for conversion of about 12 million pounds of caponettes bought by USDA earlier this year.

The final contract—awarded to North American Packing Corp., Boston, Mass., includes a preparation charge of $0.0285 per pound (of frozen product) and a canning charge of $0.1895 per pound based on net weight of canned product.

TWO DIE IN ACCIDENT

OTWELL, IND.—A wall collapsed at the Otwell Milling Co. recently near here and killed two of three men in an office below. Killed were Don Yates, a mill employee, and Claude Huffman, a farmer, both of Otwell. The second floor brick wall of the plant collapsed, apparently under the weight of wheat stored inside and toppled onto the office below.

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